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ABSTRACT

The purpose of this practicum was to develop and implement a computer training series for early childhood professionals. Over a 10-month period, direct instructional presentations, scheduled lab periods for individual practice, and informal hands-on activities formed the framework for developing foundation skills. The skills involved were those needed for the general operation of a computer, the selection and use of software packages, the use of two computer languages, and the effective implementation of computer-related skills in child care sites. Upon completion of the workshop, a post-test survey tool was administered to determine changes in skill levels and achievement. (PCB)

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INTEGRATING COMPUTER TECHNOLOGY INTO THE FIELD OF CHILD CARE THROUGH IN-SERVICE WORKSHOPS FOR UNIVERSITY DAY CARE STAFF AND TEACHERS-IN-TRAINING

BY

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INTEGRATING COMPUTER TECHNOLOGY INTO THE FIELD OF CHILD CARE THROUGH IN-SERVICE WORKSHOPS FOR UNIVERSITY DAY CARE STAFF AND TEACHERS-IN-TRAINING

PRACTICUM II REPORT SUEMITTED TO THE FACULTY OF THE
EARLY CHILDHOOD EDUCATION PROGRAM
IN CANDIDACY FOR THE DEGREE OF

Ed.D. in Early Childhood Education

BY

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NOVA UNIVERSITY
CLUSTER XIV

JUNE, 1987

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ABSTRACT

Integrating Computer Technology into the field of Child Care through In-Service Workshops for University Day Care Staff and Teachers-in-Training. Kozubal, Diane K., 1987: Practicum Report, Nova University Ed. D. Program in Early Childhood Education.
Descriptors: Computers/ Microcomputers/ Computer Literacy/ Staff Development/ Faculty Development/ Inservice Education/ Inservice Teacher Education/ Workshops/ Teacher Workshops/ Day Care/ Day Care Centers/ Early Childhood Education/ Teacher Education.

As many child care administrators begin to utilize computer technology for program management and curricular development, user anxiety and implementation resistance emerges as a result of limited knowledge about computer operations and the unavailability of training courses tailored to early childhood applications. The apprehensions of staff members, at a university day care lab school, fueled an interest in the development of a computer training series which would be informational and practical in nature.

Preparing pre-service and in-service teachers for incorporating computer applications into their facilities involved not only an exposure to current research or methodology for combining developmental needs with the technology and the existing curriculum, but also provisions for integrating learning and teaching approaches to include hands-on experiences and observations. Over a ten month period, direct instructional presentations, scheduled lab periods for individual practice, and informal hands-on activities formed the framework for developing foundations skills in the general operation of a computer, the selection and use of software packages, the use of two computer languages, and the effective implementation of computer related skills into existing child care sites.

Upon completion of the workshop, a post-test survey tool was administered to determine changes in skill levels and achievement. The results of the YES-NO item analysis indicated considerable gains, of at least 50%, among half of the survey items. In addition to the data collected from the pre and post-test skill surveys, a Workshop Evaluation assessed the effectiveness of the session format, the usefulness of the topics, handouts, application tasks, and projections for implementation plans.

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CHAPTER I

INTRODUCTION

Community Description

The community, within which this practicum took place, can best be described as a Midwestern industrial city located in close proximity to the Chicago Metropolitan area, Lake Michigan, and the city of Gary, Indiana. A 1980 census analysis reports the city population as 93,714, representing 88.3% white, 11.7% non-white, and 2% foreign born. Projected census figures forecast a 5% decrease in population by 1990 due to expanded suburban housing developments, extensive industrial layoffs, and new commercial businesses away from the city. (NIPSCO,1982) The city provides jobs in various fields ranging from domestic and human service occupations to teaching, health care, construction, and transportation operations. Major job markets include steel manufacturing, oil refinement, engineering, utilities, and the production of railroad and industrial equipment. A myriad of steel, chemical, utility, and printing industries have either closed or participated in major strikes and layoffs during the past five years, resulting in an unemployment rate of just over 15% of the labor force.

Direct educational services, for public and private elementary, high school, and college level programs, are provided within the city and neighboring communities. Nineteen public elementary and eleven high schools serve over 14,000 children in this northwest county of the state. In addition, eight parochial schools and two private day schools prepare another 3,000 children with sound educational programs. A liberal arts, engineering, medical, or business administration education can be earned from one of three local commuter colleges. In addition to degreed programs, at the graduate or undergraduate levels, each of these schools offer extended summer enrichment programs for academically talented school-age children, in computer science applications, environmental science discoveries and the arts.

Field Site

The field site, an academically autonomous university, is the largest of all regional campuses in this university system. In the early 1940's, the campus began as an extension of one of the original land-grant universities in the state, and grew to its present 167 acre site serving over 7,000 students in both credit and certificate programs. The campus ranks as one of the largest employers in the city, with a faculty and administrative staff of nearly 350, and a clerical and service staff of over 150.

The University espouses the spirit of the land-grant university tradition and is especially dedicated to the service of the people in the Northwest region of the state. The primary mission of the school is threefold: to provide its students with a liberal education that will prepare them for life or the professions; to provide career-oriented studies that lead to certificate, associate, baccalaureate and masters' degrees; and to provide programs that meet the professional, cultural, and general educational needs of the community.

Within its goal of providing a liberal education and preparing students for a variety of professions, the school offers programs in a wide range of disciplines such as communication, English, history, mathematics, chemistry, German, political science, and psychology. Career related programs include elementary and secondary teaching, engineering, nursing, construction technology, manufacturing technology, supervision, and electrical technology. Transfer programs, in restaurant, hotel and institutional management, child development and family studies, forestry agriculture, animal sciences, chemical or civil engineering, and food and nutrition, allow students to complete their freshman and sophomore years before attending the main campus to continue the degreed program plan. The professional, cultural, and general educational needs of the community are met through continuing education programs, dramatic performances, and graduate programs which are offered in conjunction

with the main campus.

The Department of Behavioral Sciences, a related setting for this practicum, is a unique combination of disciplines which assist students in their understanding of human behavior and social problems,in preparation for a wide range of professional careers in government, business, hospital care, social service agencies, and child care fields.

Child Day Care Program

Recognizing the direction of social change in employment patterns within family units, and the increased awareness of the continuity of human development, an Associate of Arts in Human Services:Day Care was designed to enlarge the understanding and improve the skills of those who plan or are engaged in careers in the development and care of the preschool child. In addition to qualifying for the position of a director of a day nursery licensed for thirty or less children or Head Teacher in a day nursery licensed for thirty or more children, this undergraduate program fully articulates with the bachelor's degree in sociology or psychology.

The curriculum, for the A.A. Human Service:Day Care, is three pronged, providing 1) an extensive evaluation of the biological, psychological, and sociological processes inherent to human

development, 2) an extensive view of the psycho-social dynamics of the child-family-society interpersonal relationship, and 3) the development of individualized skills and interests. Directed in-service training, at the University Child Care Center, provides opportunities for implementation of cognitively-oriented curriculum strategies and administrative techniques.(Appendix A)

The University Child Care Center was established in 1978, as a laboratory training site for the Human Services:Day Care program and as a high quality child care facility for children of students, faculty, staff and community patrons. The center is staffed by qualified teachers, with training in child care and developmental psychology. They work directly with the practicum instructor in scheduling the weekly plans developed by the teachers-in-training. The Director, serves as a coordinator,academic advisor, and instructor for the child care program.

Practicum students complete their student teaching experiences at the Child Care Center, to meet course requirements. Other university students, from the nursing, education, and developmental psychology programs, use the center as an observation site.

A variety of in-service programs are routinely scheduled, to meet the needs, interests, and concerns of the staff, as they deal with the management of a drop-in child care center. These programs have varied in content from separation anxiety, discipline strategies, time-out, and parent effectiveness topics, to program

implementation using High/Scope, Red Cross Safety training and the Center Accreditation Project. The proposed staff development training, introducing child care professionals to the computer, has emerged from the concerns of area directors and graduating field professional, as administrative record keeping, child assessment, and general operating procedures consume a large portion of their daily responsibilities.

Writer Identification

The writer has been involved in various areas of early childhood education and teacher training for over thirteen years; as a preschool Director and kindergarten teacher, Child Development Associate Trainer, college instructor, private consultant, and workshop leader at local, state and national conferences. The writer presently serves as visiting Assistant Professor of Human Services, delivering undergraduate curriculum courses and supervising student teachers in the Elementary Education program. As guest lecturer, in the Departments of Behavioral Sciences and Education, she teaches History and Philosophy of Early Education, Techniques of Human Assessment, Child Care Administration, and Curriculum Content Workshops.

The writer's professional expertise has been developed through consultant services for Head Start, Curriculum Committee membership

for parochial Kindergarten programs, and staff trainer for local pre-service teacher education field experiences. Her interest in and concern about the use of computer education developed as she co-authored an article for THE COMPUTING TEACHER, on computer-assisted instruction for teachers (Vockell, Rivers, Kozubal, 1981), and participated as workshop leader for an elementary teacher training program for elementary teachers which was funded by the Indiana Computer Consortium for Higher And Technological Education during the spring of 1985. In addition to the writer's research on identifying software variables which restrict the use of computers among young children (Kozubal, 1985), she has attended numerous computer workshops, accumulated an extensive personal software library, and continues to examine the literature and computer products for research and strategies for use among professionals and programs which serve young children.

CHAPTER II

PROBLEM IDENTIFICATION

Statement of the Problem

The impact of today's society, upon the way information is processed, program content is developed, or relationships are approached, provides a formidable challenge for training a wide variety of professionals. To keep abreast of recent technological innovations and the implications for use within the field of Education, (Durbak,1984), a joint purchase of an Apple II computer system, by the Human Services and Education Departments, provided the initial step for field testing the computer at the administrative level. In addition to validating the computer as useful for storing test data, student progress, student teaching schedules, or handling basic word processing tasks,(Marshall,1984), it was hoped that first-hand operational skills, by the faculty, would provide insights into practical applications for programs within each department. (Whitelaw,1983, Vockell,1984) The curiosity and skepticism related to the computer has given way to investigations about the possibilities for administrative and program use among early childhood professionals within the public

and private sectors. (Howe,1982, Zaijka,1983,Jorde,1985,Beaty,1987)

The initial departmental use of the computer, characterized by in-house peer tutoring, introductory workshops dealing with general operations, the development of an extensive media lab file of software for use among faculty and education students, and demonstrations at campus computer fairs, led to the adoption of the highly sophisticated IBM computer. The Apple system, although obsolete compared to its IIe, IIc, or PC relatives, was assigned permanent housing with family studies and child care services.

Interest in the direct utilization of the available Apple II system at the University Child Care Center, for immediate service of time-consuming administrative tasks as well as future use with young children, was initiated by the director of the facility. Her understanding of computer applications with young children was whetted through attendance at a LOGO computer language course. This stimulated further interest into applications for the lab school staff. Albeit her favorable response was supported by the Behavioral Sciences Department Heads, the child care staff was not as prepared to readily adopt the system. Querries about the selection and use of software, procedures for training, and implementation strategies fueled their apprehension and promoted continued delays in projecting an accurate time line for actual service . Their limited knowledge about computer operations, the strengths and limitations of the computer, and when to use the

computer for information processing became a primary issue requiring prompt resolution.

Verification

Computer literacy, according to Daniel H. Watt, (Prentice, 1983), can be identified as developing through three distinct skill stages. The first level, striving toward an understanding of how computers work and how they are useful, sets the stage for the recent nationwide push for computer implementation among educational programs and small businesses. (Noonan, 1984) As described, evidence clarifying its validity for adoption comes from the writings of Bowman (1983), Clements (1982), and Rousseau (1981). Having a technical knowledge of how a computer works can be rated as secondary to justifying its use at sites similar to the practicum location. Staff members, lacking the background skills for developing appropriate computer use strategies, invited concrete suggestions for implementation proposals. Resources, such as articles from early childhood journals, conference presentations, and council discussions, had stimulated the need for a deeper discernment of the dynamics of computing.

Although the first stage is primarily informational in nature, it leads into the second stage, where people learn to use the

computer as a tool for various applications in their setting. Knowing how and when not to use the computer, allows for individualizing approaches based upon the strengths and weaknesses of its optional use. Verification of the need for development in this area was documented through the administration of a self reported computer needs survey to twenty-two local child care Advisory Board Members, pre-service teachers in training, and the university lab school staff members.(Appendix C) Preliminary data revealed minimal availability and utilization of computing systems within existing childcare sites. Forty-one percent reported some computer experience, ranging from home or office use to the completion of some formal training, and fifty-nine percent supported the importance of computer application skill development among field caretakers. Three times as many participants checked the 'NO' column as compared to the 'YES' column on the self-reported twenty item computing skill section of the survey. Reported deficiencies in operational skills, the limited availability of computer systems among local facilities, and value for skill development using this technological tool, supply substantial evidence for instructional needs.

As the third stage emerges, users strive toward a controlled 'how and when' use of the computer for daily management assignments. Selective use of computer applications, at this level, provides for the freedom of choice and influence over which functions could be

efficiently processed on the computer. As identified in Appendix B, the major duties of the child care director and other head personnel demand meticulous record keeping, written correspondence, and regular budgetary analysis tasks, which could be loaded and stored on the computer for easy retrieval. The development of activity plans, scheduling children and practicum students, recording performance data, completing staff and child assessments, maintaining health and attendance records, monitoring inventory supplies, and preparing staff memos could be streamlined on data base and word processing systems.

Evidence of fragmented development, within each of these three levels, as substantiated by the results of the needs survey, provided a target for the need to expand participants' computing knowledge into operational application skills. Clearly, a well developed scope and sequence computer training series was in order for these child care professionals.

Causes

Recent developments of computer use in schools and private businesses have encouraged manufacturers to create a wide variety of software products, which boast ease-of-use by inexperienced computerists or even young children. (Buckley, 1984) Related

educational sites, such as vocational training schools, day care, and nursery school programs, are now falling prey to societal pressures to join this technological trend. (Bowman, 1983, Jorde, 1985, Howe, 1982) Unfortunately, the availability of formal training in computer applications, as an integral part of numerous professional degree programs, has failed to keep abreast of this direction.

Observable causes for the anxiety and deficiencies in computer operations among the identified population include:

1. Systematic computer development programs, while a valid form of training (Merbler, 1984), are often scheduled at the university during day-time hours. Day care facilitators often work long hours, with restrictive planning breaks during designated shifts. Attending classes during the evening often imposes upon employment which supplements their meager salaries.

2. The practical use of the computer, for day care applications, is still in its early stages of development. Initial budgeting costs, cost-recovery estimates, training, and the questionable future of federal and state provisions for day care support, call attention to selective distribution of existing funds. Computer purchases become an item on a wish list for fundraising promotions.

3. While the University plan of study for the Human Services:Child Day Care degree provides for a math or science

elective (Appendix A), which could be selected from the Informational Systems and Computer Programming department, few students elect even a non-technical lower-division course in computing. This finding is supported by the research of Lowe (1983) on sex differences, science, and society. Since women make up the majority of personnel in the field, it is not surprising to see that few chose a course in computer sciences.

4. The recent push for computer literacy prompted the centers' director to examine possibilities for site use. Although the decision to field test the computer was initiated by the administration, it was hoped that the adoption of several pilot programs for administrative tasks would reduce user anxiety and lend to the eventual use of the computer with the children enrolled in the program.

REVIEW OF THE LITERATURE

A review of the literature presents varying perspectives and strategies for considering user attitudes, assessing training needs, and implementing a computer workshop for the identified or related

professional groups. Insights into computer applications among distinct disciplines, such as vocational education or business education, is presented in the work of Clemmensen (1985), Rodensteen (1982), and Sugarman (1983). Specialized workshops, for awareness literacy, occupational study, accounting procedures, and the use of packaged versus prepared programs, may be planned to gain acquaintance level skills for immediate use to mastery levels of proficiency for creating personalized software.

The perceptions and psychological attitudes of the training participants play a critical role in the identification of appropriate skill development strategies. Montague and King (1985) found a priority differentiation among administrators' perceptions of computer competencies and application skills. Their work identified several developmental stages through which individuals pass as they acquire initial computer proficiencies and higher order resource skills; suggesting that training programs provide a balance of literacy, application and management implications. The varying amounts of knowledge and information about computers, and the time needed to become adept in using the tool, was found to affect rejection decisions of administrators. (Jorde,1985). Adoption is often noted as being based upon the cost effectiveness, status and social approval, complexity of skills required, and the compatibility of the new practice with the established program values.

Additionally, data on gender differences among computer users, indicates that women hold a lower confidence level in identifying with and implementing computer technology.(Hackett and Betz,1981, Lowe,1983) This has been acknowledged, by Krienberg and Stage (1983), as, in part, inhibiting experiential gains which break down the stereotypic patterns of behaviors related to the technology. Tobias (1978) and Rogers (1983) correlated the receptive deficiencies and lower levels of innovative behaviors among females to the computers' relationship to math and science skills. Reports of use avoidance by this potential-user-group,(Jackson,1985), and the consideration of personal and psychological parameters to reduce the likelihood of failure that threatens technological acceptance, are shared by Bozeman (1978) and Bledsoe (1983). The affective domain becomes an essential variable for increasing positive forms of interactional relationships with the computer. (Bowman,1983)

A variety of strategies have been developed for training educators to integrate computer technology into job related management duties.(David, 1984) The direction of computer instruction, cited repeatedly as a major need for teachers at all levels (Clements,1983, Moore, 1984, Oliver, 1983, Sheingold, 1981), becomes dependent upon the cost factors of the trainer services, hardware and software, time, and specific group goals. According to Spencer (1983) and Cameron, 1984, the ideal training situation necessitates access to a large number of computers, a variety of

software, and good teacher-trainer skills. Besides this, it is suggested, by Kopke (1984), that different learning styles and possible feelings of anxiety or reluctance to learn about computers be considered as one prepares long range goals. Jorde(1983), Montague (1985), Fredericks (1984), and Parker (1985) recommend systematic pre-service and in-service guidance for early childhood personnel, as an avenue for acquiring a greater awareness of he larger context and effects of microcomputers on society. This will, in turn, enable child care professionals to influence and enhance childrens' learning about the computer. (McCrory,1984, Christ,1984, Falk,1985)

The use of packaged software tools, rather than detailed lessons about programming, was suggested as a focus for training in the research of Tauber,1985, Howe,1982, and Bledsoe,1983. Clements (1983) advises the use of the computer as a tutor, a tool, and a tutee. This form of direct, active involvement with the general operations of software selections, to assist administrative or curricular planning, would result in an increase of immediate relevancy.(Neugebauer,1983, Spencer,1983, Merbler,1984)

Proposals for training time become dependent upon the needs of the group and the forecasted program goals and objectives. Introductory level, user-orientation workshops, which provide minimal instructions for setting up the hardware and general operations, could be scheduled for singular training sessions of two

to four hours. (Martin,1982, David,1984, Tauber,1985) Other training models, designed to build an in-depth scope and sequence of awareness and functional skills, (Martin,1982), propose thirty to fifty total contact hours of computer instruction. These models are often part of a continuing education program at a local college or university, an extended service program offered through an educational office of a national computer company, or a retraining program for the unemployed seeking new skills.

CHAPTER III

OUTCOMES AND EVALUATION

Goals

The goal of this practicum was to provide pre-service and in-service child care professionals, involved in a university human services lab school, with an introduction to the use of the computer as a tool for managing administrative tasks and identifying curricular applications. Direct instructional presentations, scheduled lab periods for individual practice, and informal hands-on activities formed the framework for developing foundation skills in the general operation of a computer, the selection and use of software packages, the use of two computer languages, and the effective implementation of computer related skills into existing child care facilities.

Performance Objectives

Upon completion of the selected treatment, participants were to report any changes in their computer knowledge for the following projected behavioral objectives:

Objective #1 : Acquire a working knowledge of computer technology, care, use of hardware, software applications, and general operational procedures using a DOS system.

Content : Familiarity with the use of the monitor, QWERTY keyboard, disk drive, printer, floppy disk, modem, load, run, boot, cursor, menu, escape, bit, byte, sector, chip, RAM. ROM, initialize, modified keyboard, ports, graphics tablet, back-up copy.

Measurement : Participants demonstrate entry level operational skills, as deemed necessary by group participation and lab experience manipulations.

Objective #2 : Become acquainted with the common business uses of a computer for administrative tasks, through demonstrations of packaged software data base and word processing programs.

Content : Active use of PFS:FILE, PFS:REPORT, Bank Street Writer, Printshop, Newsroom, and Applewriter.

Measurement : Participants run, edit, and print out sample data

base and word processing program materials using sample data from the child care records and developed format models.

Objective #3 : Make suggestions for the selection and evaluation of administrative and curriculum software for young children.

Content : Use of Educational media lab resources to preview software for possible recommendation.

Measurement : Using the software evaluations provided, participants complete one form for each piece of software he/she previews. This provides a framework for the future role and development of computer applications.

Objective #4 : Become familiar with the format for BASIC and LOGO computer languages, as it relates to the development of software for program needs and/or practices with young children.

Content : Use of LOGO for the APPLE, Terrapin LOGO, Turtle Tot peripheral, BASIC task cards, LOGO tasks cards, flow charts, and Big Track demonstration.

Measurement : Participants write and run simple procedures using BASIC and LOGO computer languages.

Standard of Achievement

A needs assessment survey was administered during the initial phase of the proposed program,(Appendix C), to study the participants' needs relative to the proposed program components and to establish a baseline of existing skills for growth analysis comparisons on a pre-test/post-test basis. It was expected that 80% of the workshop participants would indicate an increase in their acquired computer skills by reporting a 'yes' to 80% of the survey items, following the practicum treatment. The validity of the needs assessment approach, presented by English (1983), as a status survey for the existing state of affairs, can be useful in determining the direction of program planning. The survey represents the typical instructional content of computer awareness and literacy training workshops, as found in the literature of Fontana (1985), Ganske (1984), Geisert (1983), Robyler (1983), Tannenbaum (1984), and Barrow (1985).

Several application tasks were included in the workshop Scope and Sequence, to encourage continued implementation. It was projected that an Inventory File, a Newsletter format, and a Record-Keeping system would be created using the word processing, data base, and graphics programs introduced during the workshop series. A Computer Adoption Time-Line, indicating continued use of the computer beyond the scheduled workshop dates, was projected as a

culminating activity. Additionally, all participants would record all implementation activities and comments on a Computer Workshop Log Form, for review and sharing during the final workshop session.

CHAPTER IV

SOLUTION STRATEGIES

Alternative Options

Educators, from early childhood through higher education, are aware of the need for computer related training. Curriculum materials, management operations, personal forms of communication, and professional journal reports lend themselves to the current trends in using multi-media tools, not only for instructional purposes but also for daily living assignments. (Shinder,1984) The reported machine-anxiousness of participants (Grady,1983) and the lack of a definitive best training model (Corwin,1983), create an open market for sharing effective site and need approaches. Considerations for solving the identified problem, on a local level, led to several possibilities.

1. The practicum site, a major university in northwest Indiana, provides faculty and staff training sessions for computer skill development. Unfortunately, the sessions were scheduled during critical times blocks, when release time from lab school duties, for attendance, would be impossible. Concern over the ability to easily

transfer beginning computer skills from the training IBM system to the unit's Apple II+ system created yet another stumbling block.

2. Credit course work, in computer system foundations, as part of the math and informational system program, were designed for occupational programmers and system analysts rather than informal use for early childhood educators. Paying for tuition and release time of staff members to attend these day classes involved a major reorganization of the staff schedules, the hiring of back-up personnel as replacements for released times, and the analysis of the existing budget for payment of tuition fees and substitutes.

3. The use of independent, self-paced text and software materials, or short course exposure to the computer, while effective, often lacked the support of a close-at-hand trainer who can assist in the participants' problem solving efforts.(Ogletree,1984, Archer,1981) As suggested by many in-service models for computer awareness and literacy training,(Dearborn,1985, Sherman,1983, Shermis,1985), hands-on demonstrations and independent work sessions should be supplemented with lecture oriented instruction.(Westley,1985, Killian,1985, Barker,1984)

4. Local public broadcast systems often provide televised computer training programs, in conjunction with at-home study materials. A

great deal can be learned about the history of computers, the construction of component parts, and the types and uses within various fields of employment. The drawback of this option is found in the non-supportive, non-interactional aspect of the taped learning environment, and the fact that few child care professionals have access to a computer in the home.

5. Identifying staff members who possess skill expertise in delivering a pre-service or in-service workshop has been identified as an effective measure for desensitizing the participants to apparent forms of technological intimidation. Trainers who are recruited this way are often more sensitive to the emotional reactions of the group and able to structure the training program in a non-threatening manner.(Utecht,1983) In-house trainers have the advantage of knowing the program needs, the participants' backgrounds, and the experience with initial computer querries. These trainers can become a motivating factor for integrating training goals with immediate program implementation.

6. Creating evaluation instruments,(Norris,1984), for pre and post treatment analysis,(Gabriel,1985), produces data for designing program content,(Wedman,1984), scheduling follow-up support, (Utecht,1983), and comparing how closely the groups entry level abilities match with those computer skills most often found within

training models. (Levin,1983, Shinder,1984, Bear,1985) Simple checklists, rating scales, and surveys become effective components of the data collection process. (Nordman,1982, Payne,1983, Stewart,1984)

Selected Approach

The selected solution, for developing computer application skills among child care professionals, reflects an eclectic organization of scope and sequence training models, time restraints, and site requirements. A staff development workshop series, which proposed to combine direct instruction with group activities and lab experiences, was scheduled on a weekly basis for all in-service child care staff members and pre-service practicum students enrolled at the university.(Appendix D) Using her expertise in teacher training and possessing a working knowledge of computer operations, the writer facilitated the direct leadership for all workshops. The scope and sequence of the proposed time line, for discussions and demonstrations, supported contemporary trends of instruction by providing lab experiences for individualized discovery and drill and practice measures.

Consistent with the findings of Neugebauer (1983) and Spencer (1983), topics and content for the weekly sessions were introduced

and reinforced through direct lecture, printed handouts, non-media filmstrips, computer demonstrations and group activities.(Appendix F) Suggestions for the use of lab time, as scheduled independently, supplemented the skills and topics as they were covered with the group. Following the series, participants selectively applied their computer skills to appropriate on-site applications. Additional instruction and guidance was built into the last phase of the program, to master specific computer skills.

Preparation for the workshop series includes trainer scheduling, reserving a location close to the child care center facilities, identifying appropriate hardware and software for demonstration purposes, securing the approval of the director and/or department chairman, locating resources for multi-media presentations, and contacting child care service personnel.(Appendix D) The limitations of the university calendar and the lab school year created restrictions for summer month project continuance, if the participants planned on employment or university course load schedules. Instructional and lab experiences took place during the spring semester and carried over into the summer and fall semester, to meet the needs of the group. Continued guidance topics, resulting from post-test survey data, remained as part of the last phase of the program.

It was expected that, in addition to an estimated thirty instructional and thirty to forty-five lab experience hours with the

Apple system, participants would elect to use the Educational Media lab which provides resources for Apple hardware and software use, as well as assistance in operating selected resources. The director of the media lab indicated that, while reserve time is not scheduled except for regular university credit classes, workshop participants qualified to use the computer resources during regular lab hours.

Software was borrowed from the Instructional Resource Center and the personal library of the writer, for use during demonstrations and lab review. Duplicate copies of the software catalogue, were distributed to all participants. (Appendix F) The listing denoted preselected entries which coincided with the workshop content. Other educaticnal tools, such as filmstrip series, hardware peripherals, projection equipment, and printed matter for review, were secured as needed. Reproduction services were provided by the Behavioral Sciences office staff.

Participants were encouraged to log their progress on prepared task progress sheets, which corresponded to workshop topics.(See Appendix E) They served as workshop agenda guides as well as a source for self evaluation, task progress, lab time tallies, and application notes. These charts also contained space for the identified session number, topic, content, and lab experiences. Additional room for personal notes was included.

A pre-test needs survey was prepared and distributed, to verify the perceived problem and assess the varied computing skill

level(s) among the day care participants. This tool, in turn, also provided the facilitator with a base line for guided instruction during the course of the practicum design. The same survey, with minor additions, (Appendix C), became a post-test tool, when administered upon completion of the workshop series, to determine skill achievement and change. The measurement of achievement for the objectives, as found in chapter three, was based upon the results of the difference between the pre-test needs survey and the post-test skill survey.

Scope and Sequence

Orientation Meeting

Introduce Participants to goals, calendar
Administer needs survey and collect
Review and Adjust calendar schedule

Session One

Introduction to General Operations
System Parts: Internal/External
Load, Boot, use of DOS, Menu, Catalog,
Initializing a disk, COPYA program
Program Commands, Run, Load, Storage, Care
Terminology Dictionary for Hardware/Software
Distribute Log form and Lab Suggestions
Distribute disks, Media Lab Catalog

Session Two

Review Initializing Disks using DOS
Review Back-up Copy Procedures
Introduce Interactive Software Types
Tutorial, CAI, Drill and Practice, Games
Simulations, Word Processing, Data Bases
Creative Software

Session Three

Review Booting a System: Cold vs Warm
Evaluating Software-Considerations of Forms
User Interaction, Presentation of Material
Authoring Systems, Content objectives

Session Four

Word Processing
Bank Street Writer:Tutorial Quick Start
cursor movements, word wrap, add, move,
erase, search, replace, save, retrieve
modes of operation, printing, utility
Printshop:Graphics plus Words
menu, cursor, escape, assistance keys
screens, graphics editor,print, set-up
cards, poster, banner, letterhead
Application task : Create a banner, a poster,
and a stationary letterhead

Session Five

Data Base Program:PFS FILE
function menu, loading, keyboard controls
Design file, Add File, Copy File
search, update, print, review forms
Application task : Create a data base file
outline

Session Six

Children and Computers

Enhancing Development and Readiness
Cognitive, social, affective, physical
Linking Skills with Computer operations
Application task :Complete a developmental and computer skills checklist for at least five children

Session Seven

Children and Computers:Keyboards and Tablets
Koala Learning Keyboard
Koala Graphics Tablet
Connection, care, management, menu, operations

Session Eight

Creating Inventories
Assist staff in preparing an inventory list
Application task : Create an inventory outline using PFS:FILE for all equipment/supplies

Session Nine

LOGO FUN: Commands, Procedural Language
An Introduction to LOGO Tutorial
Draw: Full screen/Split screen
Screen Commands, File Commands, Pen Color
Naming Procedures, Primitives
Big Track Demonstration

Session Ten

More LOGO:Turtle Tot Tracks
Use of Floor Turtle

Session Eleven

Data Base:PFS REPORT
Loading, Control keys, Main Menu, Functions
Printing a Report, Codes, Order, Headings
Layout, Columns, Use with Disk Drive

Session Twelve

Early Childhood Assessment on the Computer
Computer Rose CHILDPACE program
Printout Developmental Chart
Application task : Complete at least one assessment using the CHILDPACE program, and printout the profile

Session Thirteen

Word Processing: Bank Street Writer
Producing Newsletters

Session Fourteen

Word Processing: Apple Writer
Commands for Printing, set-up
Application task : Develop and distribute a Fall Newsletter using word processing and graphics software of your choice

Session Fifteen	Data Base Systems for Recording, Updating Set up a file outline for a selected task
Session Sixteen	Continue with Data Base System Retrieving Files, Erase Files
Session Seventeen	LOGO Applications with Children Demonstration of Introductory activities
Session Eighteen	LOGO Fun with Children:Computer Applications Application Task : Introduce a child or group to the LOGO computer language
Session Nineteen	Research on Computers in Early Childhood ERIC Bibliography, article file Suggestions from research use and value Purchase, selection, expectations
Session Twenty	Designing Implementation Strategies Administer Post-Test Skills Survey
Session Twenty-one	Application/Replication review and sharing Application task : Develop a Computer Adoption Time-Line
Session Twenty-two	Printshop Companion:Calendar Graphics Application task : Design a calendar format for weekly themes, activities, parent notes, center dates, and practicum student notes.
Session Twenty-three	Assist in new hardware set-up and software review
Session Twenty-four	Preview computer software with practicum and curriculum students-in-training
Session Twenty-five	Administer Workshop Evaluation Form

Workshop Series Time Line, 1986-7

April	Orientation Meeting, Needs Survey Introduction to General Operations Software Types Evaluating Software
May	Word Processing: Bank Street Writer and Printshop Data Base Program: PFS FILE Children and Computers: A Developmental Approach Children and Computers: Keyboards and Tablets
June	Creating Inventory Files
July/August	Use of Media Lab to Preview software, refine skills
September	LOGO Fun: Commands More LOGO: Turtle Tracks Data Base: PFS REPORT Early Childhood Assessment Program
October	Word Processing: Bank Street Writer Word Processing: Apple Writer Data Base Systems: Record Keeping Data Base Systems: Updating
November	LOGO Fun: Applications with Children
December	Research on Computers in Early Childhood Education Implementation Strategies for Day Care Post-test Survey
January/Feb.	Continued Skill Development Application strategies:review and sharing Development of Computer Adoption Time Line
March	Software Demonstration to Curriculum Group Workshop Evaluation Form Distribution
April	Write Final Report

CHAPTER V

RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

Pre-test data

Information collected from the pre-test survey, which was designed to study the participants' experience, projected interest or valuing of computer training, and basic computing skills, served as a baseline for developing the scope and sequence of the workshop series. (See Chapter IV and Appendix C) The performance objectives were used as a method for organizing the pre and post-test survey items, as found in Chart A. Twenty specific computing abilities were identified according to a series of YES-No items, which were projected by the writer as possible session topics based upon the proposed goals and objectives. The item groups were then averaged, for a broad examination of the reported skill, and posted in chart form.

Of the twenty-two child care advisory committee members, campus lab school staff, and child care trainees, 59% reported no previous computer related training or experience on the job or at home. While only five percent indicated that this deficiency posed a

problem with new or existing employees, 59% agreed that a proficiency in computer applications would be an asset to an early childhood applicant. In addition, the pre-test results revealed that 1) only 31% of the participants understood or could demonstrate the basic operating procedures, 2) 17% could use the computer for administrative tasks such as word processing, setting up data base files, processing an assessment program, or locating pertinent research on its use in early childhood education, 3) 17% were capable of selecting or evaluating prepared software programs, and 4) 18.5% were knowledgeable about programming a computer using BASIC or LOGO languages. With all skill groups being averaged, only 21.03% of the pre-test survey participants reported YES to all given skills.(See Figure 1) This figure represented a one to five skill ratio; further documenting the need for technical training in computer applications.

CHART A

Objectives and Corresponding Survey Item Chart

Objective #1 : Acquire a working knowledge of computer technology, care, use of hardware, software applications, and general operational procedures using a DOS system.

Corresponding Survey Items : OPERATIONAL PROCEDURES

1. Name at least three hardware components of a computer.
2. Turn on, load, and boot a computer program.
3. Initialize a disk to receive data using DOS.
4. Call up a catalogue and run a program listing of a prepared disk.
5. Describe the basic care of hardware and software.
6. Use computer terminology.
7. Name at least three peripheral hardware pieces.
8. Connect peripherals to appropriate ports.

Objective #2 : Become acquainted with the common business uses of a computer for administrative tasks, through demonstrations of packaged data base and word processing software.

Corresponding Survey Items : ADMINISTRATIVE USE

10. Use a word processing program.
11. Set up a data base file, using a prepared program.
12. Process a developmental assessment using a prepared program.
14. Locate research and issues on the use of the computer.

Objective #3 : Make suggestions for the selection and evaluation of administrative and curricular software for young children.

Corresponding Survey Items : SELECTION AND EVALUATION

13. Explain the format of tutorials, CAI, simulations, and games.
15. Locate software resources.
16. Preview software for applications.
17. Complete software evaluation forms

Objective #4 : Become familiar with the format for Basic and Logo computer languages, as they relate to the development of program needs and/or practices with young children.

Corresponding Survey Items : PROGRAM USE

9. Operate a graphics tablet or modified keyboard.
18. Write a program using BASIC commands.
19. Write a program using LOGO commands.
20. Relate developmental abilities of children to computing skills.

Figure 1

Pre-Test Data *

OBJECTIVE #	-1-	-2-	-3-	-4-
ITEM #				
1.	45%			
2.	45%			
3.	27%			
4.	36%			
5.	32%			
6.	27%			
7.	27%			
8.	14%			
9.				14%
10.		14%		
11.		23%		
12.		14%		
13.			18%	
14.		18%		
15.			27%	
16.			18%	
17.			5%	
18.				32%
19.				18%
20.				9%
SKILL AVERAGE	31.625%	17.25%	17%	18.25%

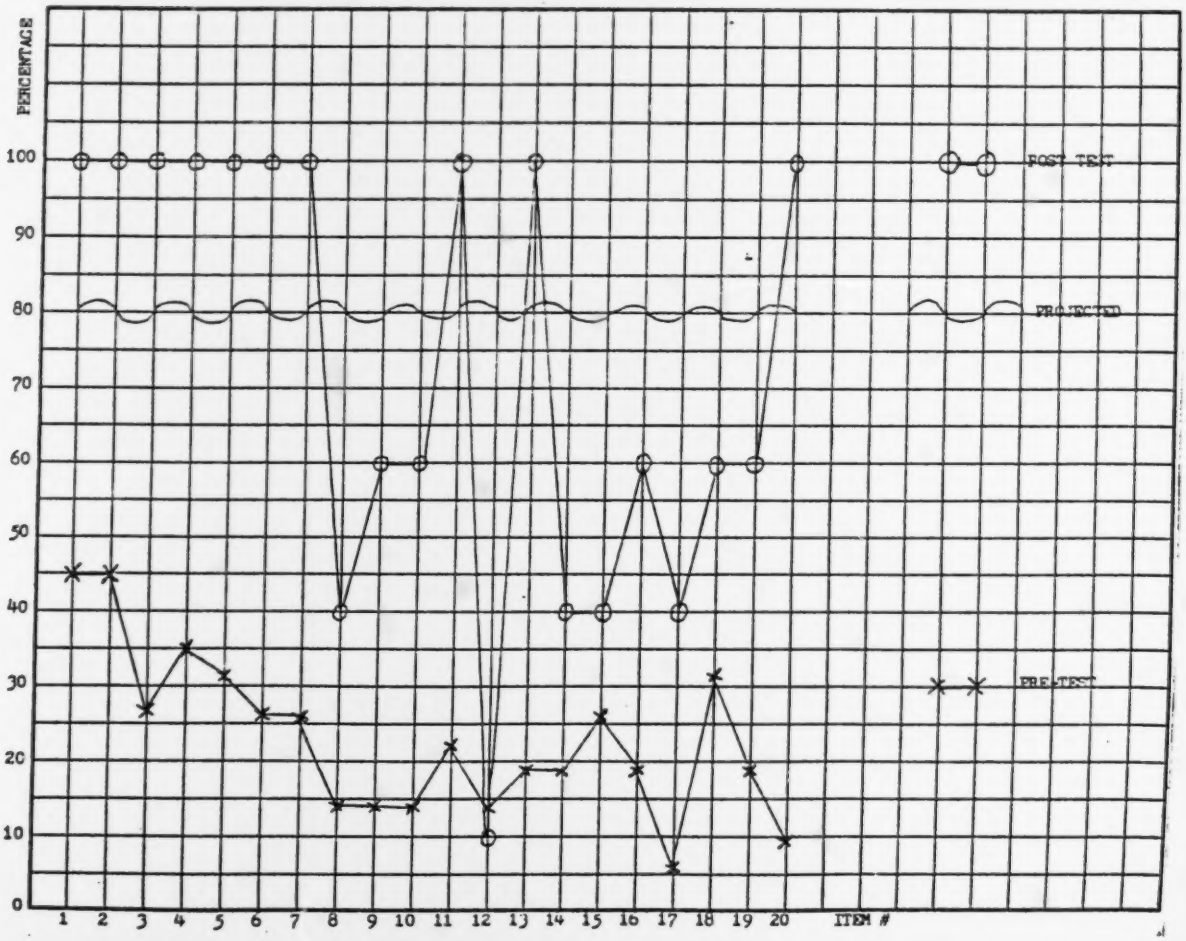
OVERALL SKILL AVERAGE: 21.03125%

* Represents % reporting YES to given survey items, prior to workshop series.

Post-Test Data

Upon completion of the workshop training series, a post-test survey tool was administered to determine changes in skill levels and achievement. The results of the YES-NO item analysis indicated considerable gains, of at least 50%, among half of the survey items. While all remaining items showed some growth, many fell below the expected proficiency level among 80% of the items.(See Figure 2 and Appendix C)

Figure 2
'YES' Responses to Survey Items by Percent



Based upon the four given workshop objectives, the post-test data, from Figure 3, may be summarized as follow:

1. All participants reported a complete understanding and working knowledge of the operational procedures associated with hardware and software. Although only 40% reported the ability to connect peripheral hardware components to appropriate rear ports, this represented an increase in skill development among 26% of the workshop attendees. The writer attributes the weaker than expected results, on this skill item, to the use of an older Apple II system with disconnected rear ports, direct hook-up to the slots, and other lab systems which are pre-set and monitored by the lab assistants. The infrequency of the task lessens the skill confidence.

2. Just over half (52.5%) reported skill acquisition in the area of administrative use of the computer. The entire group felt confident in their abilities to prepare a data base program, 60% could use a word processing program, 40% could locate research issues related to the use of computers in early childhood education, but only 10% could process a developmental assessment, using a prepared program. This last skill item was substantiated by the fact that few, well-written developmental screening programs were available for preview.

3. Sixty percent reported a proficiency in the evaluation and selection of prepared software materials.

4. Competencies in programming, using Basic or the Logo languages, and the operation of a graphics tablet or modified keyboard was reported by 60% of the group. Recognition of the developmentally related computing skills of young children was acquired by all members. Programming proficiency, although not a mandatory skill for computer users, is an area which received minimal concentration, due to the availability of well written business and educational applications programs.

Specifically, the skill items which fell short of the projected 80% mastery level include: #8- connect peripherals to external ports (40%); #9- operate a graphics tablet or modified keyboard (60%); #10- use a word processing program (60%); #12- process a developmental assessment program (10%); #14- locate research and issues on the use of computers in early childhood (40%); #15- locate software resources (40%); #16- preview software for appropriate applications (60%); #17- complete a software evaluation (40%); and #18- write a program using BASIC OR LOGO formats (60%). This represents fifty percent of all items included in the survey. Contributing factors have been identified as reported versus an

actual ability given a demonstration example, insufficient implementation practice at the lab, and the timing of the initial skill presentation within the scope and sequence time line and the post-test survey.

Figure 3

Post-Test Data *

OBJECTIVE #	-1-	-2-	-3-	-4-
ITEM #				
1.	100%			
2.	100%			
3.	100%			
4.	100%			
5.	100%			
6.	100%			
7.	100%			
8.	40%			
9.				60%
10.		60%		
11.		100%		
12.		10%		
13.			100%	
14.		40%		
15.			40%	
16.			60%	
17.			40%	
18.				60%
19.				60%
20.				100%
SKILL AVERAGE	92.5%	52.5%	60%	70%

OVERALL SKILL AVERAGE: 68.02%

* Represents % reporting YES to given survey items following workshop series.

The percentage gain in skill proficiency, between the pre and post-test survey items, as a result of the content of the workshop series, provides an alternate perspective to skill attainment and actual change. Pre-workshop projections speculated that 80% of the participants would report a YES on 80% of the survey items, following the practicum treatment. Figure 4 provides the data for this pre-post test comparison, illustrating a substantial skill gain even for those items which fall far below the anticipated 80% level.

Figure 4

PRE-POST TEST COMPARISON
Yes Responses By Percentage

OBJECTIVE		1				2				3				4			
		PRE	POST	% GAIN		PRE	POST	% GAIN		PRE	POST	% GAIN		PRE	POST	% GAIN	
ITEM #																	
1.		45	100	122													
2.		45	100	122													
3.		27	100	270													
4.		36	100	178													
5.		32	100	213													
6.		27	100	270													
7.		27	100	270													
8.		14	40	186													
9.														14	60	329	
10.						14	60	329									
11.						23	100	335									
12.						14	10	-29									
13.										18	100	456					
14.						18	40	122									
15.										27	40	48					
16.										18	60	233					
17.										5	40	700					
18.														32	60	88	
19.														18	60	233	
20.														9	100	1011	

Using this analysis, only two of the twenty items fell short of an 80% gain: item #12- process an assessment, and #15- locate software resources. This last item came as a surprise, considering the extent to which the topic was covered and evaluated during our scheduled session.

Figure 5 documents the types of materials presented during the session on Resources for Computing. The reported pre-test familiarity and post-test value was noted for each given resource.

Figure 5
RESOURCES FOR COMPUTING

LISTING	FAMILIARITY PRE	VALUE-POST HI	AV	LO
JOURNALS/MAGAZINES				
CHILD CARE INFORMATION EXCHANGE	25%	75%		25%
YOUNG CHILDREN	100%	100%		
BEGINNINGS	25%	25%	50%	25%
DAY CARE AND EARLY CHILDHOOD EDUCATION	50%	50%	25%	25%
EARLY YEARS	50%	25%	50%	25%
EDUCATIONAL TECHNOLOGY			25%	75%
INCIDER			25%	75%
NIBBLE				100%
CREATIVE COMPUTING				100%
A+	25%		50%	50%
PC				100%
PERSONAL COMPUTING			25%	75%
PERSONAL SOFTWARE			50%	50%
FAMILY COMPUTING			25%	75%
COMPUTER SHOPPER			50%	50%
THE COMPUTING TEACHER			50%	50%
TEACHING AND COMPUTERS		50%	25%	25%
ERIC FILE SYSTEM	75%	100%		
CIJE	50%	50%	50%	
PSYCHOLOGICAL ABSTRACTS	75%	50%	25%	25%
EDUCATION INDEX	25%		75%	25%
RGTP LITERATURE	75%	50%	25%	25%
ENQUIRY RESEARCH	25%	25%	75%	
NEWSLETTERS				
LIBRARY REPORTS	25%	25%	25%	50%
HI-SCOPE:KEYNOTES	50%		75%	25%
COMPUTERTOWN				100%
APPLENEWS			50%	50%
INDIANA DEPARTMENT OF EDUCATION			25%	75%
FAMILY GUIDE TO ED. SOFTWARE			50%	50%
MISC.				
KIDCARE SYSTEM	25%		25%	75%
GUIDE TO EDUCATIONAL SOFTWARE			25%	75%
COMPUTER CONFIDENCE		75%		25%
SERIES RESOURCES		25%	50%	25%
MINNESOTA EDUCATIONAL COMPUTER CONSORTIUM	25%			100%
CATALOGUES				
SUNBURST	25%	25%	75%	
SPRINGBOARD		25%	75%	
XEROX			100%	
BRODERBUND		50%	50%	
SPINNAKER			75%	25%
THE LEARNING COMPANY			25%	75%
DISCOUNT PURCHASING AGENTS				
PC		25%	50%	25%
NORTHEASTERN SOFTWARE	25%	50%	50%	
SILICON EXPRESS		50%	50%	

Workshop Evaluation

In addition to the data collected from the pre and post-test skills surveys, a Workshop Evaluation (Figure 6) was distributed one month following the last scheduled session. This evaluation was developed for the purpose of assessing the effectiveness of the session format, the usefulness of the topics, handouts, and application tasks, and for projecting implementation plans. Using a 1-2-3 scale, the participants were asked to score five General, eight Topic Usefulness, and sixteen Resources statements; a YES-NO checklist for an application tasks completion section; open-ended remarks about Future Planning; and optional comments and suggestions for the replication of the series.

The results indicate an Excellent rating, by at least 75% of the participants, on twenty-seven of the twenty-nine statements; the two remaining areas, session duration and Logo language, scored Excellent among 50% and 25% respectively. All but one of the given twelve application tasks were completed by at least 75% of the group. The open-ended narrative sections, on Future Planning and Comments and Suggestions, were completed with surprising specificity. In response to the participants' intended use of their developing computer skills, answers favored tasks related to administrative responsibilities. Priorities included the storage of various record keeping elements, scheduling forms, billing updates,

equipment inventories, birthday lists, lesson planning elements, rotating snack menus, newsletters, concept calendars, and staff evaluations. Facilitating computer experiences, with the older preschooler, was cited as secondary in importance, at this time.

The given projected time lines, for implementation of these suggestions, varied from a monthly adoption schedule to an order-based sequence dependent upon the availability of 'input' time to load data on systems programs. Several noted general computer applications, listed in an order of importance, which would warrant immediate and continued development. Their proposals reflected an interest in creating a data base file of pertinent enrollment information, assessing individual skills, storing an activity file , and printing an inventory list. Many felt that this projection was dependent upon the ability to purchase or have access to software which would simplify these tasks. One participant suggested a practical application period, based on the school year calendar.

SEPTEMBER	CREATE A FALL NEWSLETTER
OCTOBER	DEVELOP AND STORE UNIT PLANS
NOVEMBER	FILE SEASONAL SONGS AND STORIES
DECEMBER	REVISE ENROLLMENT DATA
JANUARY	PROCESS ASSESSMENT RECORDS
FEBRUARY	STORE SEASONAL ACTIVITIES
MARCH	DEVELOP A FILE OF FORMS

APRIL	UPDATE DATA BASE MATERIALS
MAY	REVISE INVENTORY OUTLINE AND PROCESS
JUNE	DEVELOP A THEME CALENDAR FOR FOLLOWING YEAR

The Comments and Suggestions section generated conflicting input with regard to the time frame, application tasks, and topic content. Some felt the series was too long; that one semester was sufficient. Others suggested longer presentation sessions, to accommodate individual hands-on support during the first few application trials. Some interest was also expressed for additional time and exposure to the LOGO language, exercises, and the Turtle Tot. This was, in part, due to the cancellation of a workshop presenter, and numerous interruptions during these sessions. The General Comments revealed a high interest and value in repeating the series, the excellence of the non-threatening orientation to computer technology, and a reported confidence level of 8.5 out of 10 following the workshop!

Figure 6

COMPUTER WORKSHOP EVALUATION

	1 EXCELLENT	2 AVERAGE	3 MINIMAL
A. GENERAL			
Effectiveness of presentation format	100%		
Adequacy of session duration	50%	50%	
Appropriateness of scope and sequence	75%	25%	
Relationship to professional use	100%		
Fulfillment of objectives	75%	25%	
B. TOPIC USEFULNESS			
Orientation to computer operations	100%		
Software Evaluation	100%		
Software Review/Preview	100%		
Data Base Systems	100%		
Children and Computers	100%		
Logo Language	25%	25%	50%
Computing Resources	75%	25%	
C. RESOURCES: HANDOUTS, OUTLINES, LOG FORMS			
Hardware and software components	100%		
Computer Care: Do's and Don't's	100%		
Disk Care and Operations	100%		
Computer Terms Dictionary	75%	25%	
Software Evaluation models	100%		
CAI Types	75%	25%	
Software Copyright Law	75%	25%	
Characteristics of Good Software	100%		
Graphics Programs/instructions	100%		
Word Processing programs/ instructions	100%		
Word Processing Charts/ types	100%		
Data Base Programs/instructions	100%		
Developmental computing skills checklist	100%		
Touch Tablet and keyboard alternatives	100%		
Logo Commands/activities	75%	25%	
Early Childhood Bibliography/resources	100%		

D. APPLICATION TASKS COMPLETED	YES	NO
Load, boot, and run a program	100%	

Initialize a disk	100%	
Run a COPYA routine using DOS	100%	
Use a word processing program	100%	
Preview software	100%	
Evaluate software using format(s)	100%	
Run a LOGO sequence	75%	25%
Create a data base file entry	100%	
Assess a child's ability to use a computer	75%	25%
Use a computer program/tool with a child	75%	25%
Run a developmental assessment program	25%	75%
Read articles about computing	100%	

E. FUTURE PLANNING

Specifically, how do you intend to use your computing skills for administrative or program tasks in the field of early childhood education?

What would your time line, for implementing of these ideas, look like?

F. COMMENTS AND SUGGESTIONS FOR FUTURE REPLICATION OF THIS WORKSHOP SERIES

Summary and Recommendations

As computer applications become more common among virtually every aspect of a societies' work and leisure time, various training models emerge. Preparing pre-service and in-service early childhood professionals for incorporating computer applications into their facilities involves not only an exposure to current research or methodology for combining developmental needs with the technology and the existing curriculum, but also provisions for integrating learning and teaching approaches to include hands-on experience and direct observations. (Crawford, 1986) Just as the profession concerns itself with the best way to prepare those who nurture and educate young children, it must respond to the content of contemporary teacher education programs as they relate to the direction of computer applications and related issues. (Hyson, 1986) This practicum attempted to meet this voiced need, in terms of providing a computer workshop series which assisted in demonstrating appropriate uses of computer technology for administrative tasks and early childhood curricular development.

The workshop series could be viewed as a three phase program including an introduction to computer operations, an investigation of software applications, and strategies for future implementation. The workshop sessions were organized to provide direct

demonstrations, hands-on experiences, informative handouts, and lecture content supporting the topic. Each phase was characterized by its own distinctive strengths, weaknesses, and inferences for replication.

During the initial part of the workshop series, participants were introduced to the general operations of the computer, language commands, the storage and care of hardware and software, terminology, and the evaluation of software. An adequate familiarity with these foundation skills was identified as essential to the success of completing the application tasks with a moderate level of confidence. Attendance, for the scheduled dates, was characterized by enthusiastic participation, difficulty in generating appropriate questions to clarify unclear explanations and procedures, and sessions which ran longer than the scheduled time frame.

The middle part of the series provided an exposure to word processing programs, data base systems, graphics demonstrations, early childhood software samples, and computer language forms. This phase involved extensive trial and error efforts, by the entire group, to create feasible application formats for actual use with existing files. The last part gave closure to the directed facilitation of computer skill development by the practicum leader. This, in turn, led into the development of concrete designs for future applications and the scheduling of time for previewing

software or refining operational skills.

When considering replication of the workshop series, the following problems and proposed solutions may be addressed:

Problem : Participants take turns executing the demonstration tasks. This restricts the time-on-task for hands-on experiences and the effective use of the session time block.

Proposed Solution : Hold the initial sessions in the media lab, where up to ten systems are available for partner execution of the sequential skill demonstrations.

Problem : The majority of the software is housed in another building, necessitating an involved checkout system and limiting the ease of access during fill-in periods of time.

Proposed Solution : Develop a weekly check out file for use on site, on a rotating basis. Store this file on the computer cart or in the office file area for easy retrieval and an incentive to test out specific pieces of software or refine operational skills.

Problem : The computer system is stored in a locked closet, in a room down the hall from the main classroom and the general office area where staff members often execute daily administrative tasks.

Proposed Solution : Rearrange the office area to accommodate the computer system. This, in turn, will facilitate and encourage use

during and following the workshop series.

Problem : After demonstrating the word processing and graphics programs, the staff members were resistant to the suggestion that they use these programs for designing parent newsletters; a job presently assigned to the department secretarial staff.

Proposed Solution : Introduce a Printshop Companion variation, which creates calendar forms for planning weekly themes and general reminders. Suggest this as an avenue for additional forms of communication between the staff, parent group, practicum students, and university supervisors.(See Appendix G)

Problem : Participants were not completing the Log Forms, designed to record their lab experiences, strategies for working with software, questions, and general comments for referral. The time spent on lab practice was questioned. These forms were intended to serve as a base for review of the topics and skills presented during the previous week.(See Appendix E)

Proposed Solution : Request that copies of the Log Forms become part of the ongoing evaluation process by turning in a carbon copy for review by the instructor. This can also serve as a way to individualize lab assistance.

Problem : Attendance fluctuated according to the unexpected needs

and priorities of the lab school personnel, staff changes, and variations in semester scheduling. Repeating a session, as a make-up later in the week, could not be accommodated due to other commitments by the writer.

Proposed Solution : Offer the workshops on a monthly commitment basis, covering related topics and skills which build on one another. Participants may then arrange their schedule according to their interests, on a short term basis.

Problem : Occasional hardware failure or software errors (in the back up copy) interrupted the demonstration session.

Proposed Solution : Use original disk for demonstrations, reserving the copies for lab time. Have the system inspected and serviced on a regular basis. Purchase a set of dust covers for all hardware components. Review the care and handling of software regularly.

Problem : A guest cancelled a presentation on the use of the LOGO Turtle floor apparatus, promising to reschedule several times. This created some time lost as well as the need to reschedule additional sessions beyond the time line.

Proposed Solutions : Schedule back-up or team presenters. Become familiar with the set up and operation of the specialized component. After initial contact and arrangements have been scheduled, send reminder memos to reinforce the expected behavior. (See Appendix H)

Problem : Budget and ordering delays, of almost six months, created a 'wait until' situation for the actual implementation period. This involved the need for a second disk drive and a printer for effectively using word processing programs, graphics packages, COPYA routines, SAVE options, and general ease of use.

Proposed Solution : Investigate the availability of rental hardware or low use in-house equipment loans.

Problem : As news of the workshop series spread, other professionals expressed an interest in attending. The original group size, sequence of foundation skill development, and limited resources prevented absorbing additional enrollment.

Proposed Solution : Video record or tape each session. Provide a manual of readings, reference articles, log forms, lab suggestions, and implementations tasks. Offer the series on a regular basis for on-site, community professionals, or parents, as part of the Continuing Education Program. A funding grant would assist is establishing equipment and supplies.

The material gathered and information gained from this practicum has lent itself to professional conference presentations,

continued in-service staff development topics on site and within the community, inter-departmental collaboration on the development of an undergraduate credit course based on the tested scope and sequence, consultant referrals for authoring a book on Computers in the Curriculum, and several firm ideas for designing software to assist in creating randomly accessed curriculum plans. This practicum design can also serve as a resource model for a variety of computer training courses, including early childhood staff and teaching faculty members, general school corporation curriculums, parent education and enrichment activities, computer lab volunteer orientation, or refresher programs.

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DAY CARE TRAINING PROGRAM PLAN

DAY CARE TRAINING PROGRAM
Model Curriculum Schedule
Suggested Course Sequence

Course Number	Semester Completed
Fall	
PSY 120 - Elementary Psychology	_____
PSY 361 - Human Development I: Infancy & Childhood	_____
BHS 112 - Introduction to Early Childhood Education (231)	_____
ENGL 104 or ENGL 100 - English Composition I	_____
COM 114 - Fundamentals of Speech	_____
Spring	
BHS 251 - Child Care Administration (114/134)	_____
PSY 362 - Human Development II: Adolescence	_____
BHS 113 - Applied Developmental Child Care (240)	_____
BHS 200 - Techniques of Human Assessment (232)	_____
BHS 212 - Early Childhood Curriculum I (235)	_____
Fall	
BIOL 211 or 101 or 203	_____
BHS 213 - Early Childhood Curriculum II (236)	_____
BHS 222 - Practicum in Human Service I (133)	_____
BHS 260 - Nutrition	_____
SOC 100 - Introduction to Sociology	_____
Spring	
Math/Science	_____
PSY 344 - Human Sexuality	_____
BHS 223 - Practicum in Human Service II (233)	_____
SOC 350 - Social Psychology of Marriage	_____
Elective **	_____

Comments _____ Date Entered Program _____

_____ Date Completed Program _____

_____

Student's Name _____

Address _____

City & State _____ Zip _____

Home Telephone _____

Work Address _____

Work Telephone _____

GRADUATION CHECK LIST

___ 60 credit hours completed (excludes GNS 100, 153, 160 and any F grades)

___ 3.9 G.P.A.

___ Pass English Proficiency Exam

Course numbers in parentheses are the previously assigned course numbers. Credit cannot be earned for the same course under both its old and new numbers.

Code: UDS
Updated: 5/85

** only elective for math/computer class

APPENDIX B:

STAFF MAJOR DUTIES AND RESPONSIBILITIES:COMPUTER APPLICATIONS

Prepare in Duplicate
Rev 11/9

DATE _____
CLASSIFICATION 66
For Personnel Use Only

STAFF CLASSIFICATION/EXEMPTION DETERMINATION FORM

hcSS
School or Division

11/1/82
Date

Position Control No.

Behavioral Sciences 6364
Department & Dept. Number

Head Teacher
Position Title

[x] New Position
[ ] Existing Position

Immediate Supervisor

Name of Incumbent

Current Classification

JOB SUMMARY

The following job summary should state the overall purpose and/or function of the position.

Responsible for the general supervision and management of child care center serving children between the ages of 2 years 9 months and 5 years 11 months (at time of enrollment). Assume duties of Director at times when Director is absent.

MAJOR DUTIES AND RESPONSIBILITIES — Percentage

List the major duties and responsibilities of the position, indicating the approximate percentage of time required for each.

1. Plan, supervise, and implement program in accordance with policies and philosophy of the child care center. 40%
2. Assist the director in supervising teaching staff in daily activity plans and ensure the smooth coordination of all classroom activities and staff and student interrelationships. 20%
3. Maintain an orderly physical environment condusive to learning. 15%
4. Conduct intake interviews with parents and children. 3%
5. Assist the director and staff in the effective use of practicum students and volunteers. (Student assistants) 5%
6. Assist the director in making staff and child evaluations. 5%
7. Observe, record and report significant individual and group behavior. 3%
8. Explain program to parents and visitors, relating the activities that foster growth and development in children. 3%
9. Attend all staff meetings. 3%
10. Assume an equal share of the joint housekeeping responsibilities with all staff members. 3%

For Personnel Use Only
POC _____
FOC _____
EEO-6 _____
ED _____

(Use additional sheets, if necessary, to complete the above description or to answer the following questions.)

_____ = possible computer application

PURDUE CHILD CENTER

Major Duties and Responsibilities will include, but will not be limited to:

1. Plan, supervise, and implement program in accordance with policies and philosophy of the Child Center.

    A. Provide planning and execution of appropriate active learning experiences for young children.

        1. Work in a cooperative manner with all adults in the program

        2. Be flexible in planning and working with adults

        3. Understand individual differences in children

    B. Supervise and train staff

        1. Provide direction to staff in working with children and adults

        2. Model the teacher's role in the teacher-child, teacher-teacher, and teacher-parent relationships

        3. Model the use of interpersonal human relations skills

        4. Help staff and practicum students diagnose problems and arrive at workable solutions to problems as needed.

        5. Eat meals with children and model good nutritional habits

    C. Prepare materials required to implement the program

        1. Post on the bulletin board pre-planned teacher initiated and free choice activities

        2. Coordinate plans with those of practicum students. Be prepared at staff meetings to facilitate coordination with practicum instructor

        3. Gear plans and materials to the needs of the individual child with concerns for its interests, talents, handicaps, cultural background and individual style

        4. Follow through on all job assignments relevant to implementing the philosophy of the Center to the curriculum

2. Assist the director in supervising teaching staff in daily activity plans and in insuring the smooth coordination of all classroom activities and staff and student interrelationships.

    A. Work with the practicum instructor in supervising students at the center

_____ = possible computer application

B. To observe and record performance of practicum students at work in the center and provide feedback as objectively and accurately as humanly possible

C. Complete a staff student evaluation form for each practicum student assigned to you on a bi-semester basis

D. Meet with each student to discuss evaluation

3. Maintain an orderly physical and emotional environment condusive to learning

A. Create a warm and accepting environment for children, adults and parents

B. Be friendly and warm

C. Be tactful and courteous, tolerant and considerate of others

D. Cooperate and work with all other adults in the program as a team teaching member

F. Listen to children and react to their needs appropriately

G. Work as a team member to provide an innovative and stimulating surrounding

H. Suggest and discuss possible changes that may improve the physical environment

4. Assist the director and faculty in the effective use of practicum students and volunteers. (Student assistants)

A. Implement methods of effectively utilizing and supervising the services of practicum students and volunteers

B. Be aware of all adults at the Center. Give support and information

5. Conduct intake interviews with parents and children

A. Explain philosophy of program to parents and visitors, relating the activities that foster growth and development in children

B. Strive to establish positive support with parents

6. Observe, record and report significant individual and group behavior

A. Maintain assessment forms on children enrolled in the Center nine hours or more weekly

B. Make an assessment on any child whose behavior warrants attention regardless of number of hours in attendance

_____= possible computer application

C. Use observation forms and procedures set up by the director

D. Divide assessment responsibilities among the teaching staff members

E. Report individual children's need and interests at staff meetings

F. Maintain up-dated files on all children

G. Keep records of attendance for children and staff

7. Attend and participate in staff meetings

A. Share information appropriately with other staff members. Make a positive contribution to team teaching

B. Report problems of children, room management or schedule to director

C. Use problem solving approach to dealing with problems, think through situations and implement possible solutions

D. Attend all in-service training

E. Make suggestions for improvement of procedures, forms, and for future needs of the Center

F. Share responsibility of keeping parents informed about center activities

8. Assume an equal share of joint housekeeping responsibilities with all staff members

A. Provide and maintain a neat, organized center and play yard

B. Join staff and children in clean-up chores

C. Take responsibility for upkeep of educational equipment and materials. Remove broken equipment from classrooms and play yard

D. Maintain picture files, instructional folders, and prop boxes

E. Be responsible for completing annual inventory of equipment and supplies

_____ = possible computer application

MAJOR DUTIES AND RESPONSIBILITIES OF ASSISTANT TEACHER

1. Assist Head Teacher in planning and implementing the daily activities in accordance with the policies and philosophy of the center.
2. Assist in planning and preparing the learning environment, setting up interest centers and preparing needed materials supplies.
3. Supervise activities of children and staff in the classroom in the absence of the Head Teacher.
4. Assist Head Teacher in maintaining an orderly environment. Assist Head Teacher in other appropriate ways.
5. Observe, record, and report the individual child's behavior as assigned.
6. Keep records of attendance, maintain immunization records and health information of children.
7. Assist Head Teacher in implementing methods of establishing positive relationships with parents.
8. Attend Staff meetings.
9. Help in general housekeeping tasks.
10. Gear the program to the needs of the individual child with concern for his interests, handicaps, talents and individual style and pace of learning.
11. Treating each child with respect and dignity.
12. Consider each child in relationship to his cultural and socioeconomic background.
13. Help each child to become aware of his role as an integral member of a group.

_____ = possible computer application

COMPUTER NEEDS-SKILL SURVEY FORM

Dear Advisory Committee Member and Child Care Trainee,

Many child care providers are beginning to explore the use and value of computers as an administrative and curricular tool. Please assist us in identifying computer use at your site and your computer related skills, so information on future training needs can be compiled.

Position

___ owner
3 director
___ staff member
18 student
1 other

User Experience

3 formal computer training
2 home/job computer use
4 minimal computer skills
13 no computer experience

Does your present site utilize computing systems? 9% YES 36% NO
If yes, what is the frequency of use? 9% daily ___ weekly ___ monthly
Do all staff members have access to computer use? ___ YES 18% NO
How many members of your program have computer skills? 7
Does the lack of computer skills pose a problem with new or existing employees? 5% YES 4% NO

Please indicate the present use and/or proposed future use of the computer.

	Present	Future
Children's programming/games	___	27%
Word processing tasks	5%	27%
Adult entertainment, tutorials	___	9%
Posters, banners, flyers, graphics	___	23%
Budgeting reports	5%	23%
Record keeping, data updates	5%	23%
Creating forms, schedules, applications	5%	23%
Meal planning, inventory/mailing lists	5%	18%
Other _____	___	5%

Indicate your site plans for present/past or future staff training.

	Present/Past	Future
On-site staff development workshop(s)	9%	5%
In-house peer tutoring	9%	9%
Local and state conference workshops	9%	5%
Apple/IBM training program consultant	___	14%
Formal college course work	9%	9%
On own, self-taught process	5%	___
Other training methods _____		

Is it important for child care workers to have or develop computer related skills for application in the field? 59% YES 5% NO 32% UNCERTAIN

Would you encourage your staff to attend or make plans for a computer literacy/awareness workshop series, to develop or enhance computer skills?
~~77%~~YES ___NO

Please indicate your present computing skills, by checking yes or no for each item.

	YES	NO
1. Name at least three hardware components of a computer.	~~45%~~	~~55%~~
2. Turn on, load, and boot a computer program.	45	55
3. Initialize a disk using a DOS system.	27	73
4. Call up a catalogue and run a program listing of a prepared disk.	36	64
5. Describe the basic care of hardware and software.	32	68
6. Use computer terminology.	27	68
7. Name at least three peripheral hardware pieces.	27	73
8. Connect peripherals to appropriate ports.	14	77
9. Operate a graphics tablet or modified keyboard.	14	86
10. Use a word processing program.	14	86
11. Set up a data-base file, using a prepared program.	23	77
12. Process a developmental assessment using a prepared program.	14	86
13. Explain the format of tutorials, CAI, simulations, & games.	18	82
14. Locate research and issues on the use of computers in ECE.	18	86
15. Locate software resources.	27	73
16. Previewing software for various applications.	18	77
17. Complete a software evaluation.	5	95
18. Write a program using BASIC commands.	32	68
19. Write a program using LOGO commands.	18	82
20. Relate developmental abilities of children to computing.	9	91

POST-TEST SKILLS SURVEY

Position : _____ PUCC Staff Member
_____ Practicum Student
_____ PUC Faculty Member
_____ Other

Experience : _____ Formal Training
_____ Home/Job Use
_____ Minimal Skills
_____ None

To assist us in preparing workshop content, please indicate your present computing skills, by checking yes-or-no for each item.

I am able to :

	YES	NO
1. Name at least three hardware components of a computer.	___	___
2. Turn on, load, and boot a computer/program.	___	___
3. Initialize a disk to receive data using DOS.	___	___
4. Call up a catalogue and run a program listing of a prepared disk.	___	___
5. Describe the basic care of hardware and software.	___	___
6. Use computer terminology.	___	___
7. Name at least three peripheral hardware pieces.	___	___
8. Connect peripherals to appropriate ports.	___	___
9. Operate a graphics tablet or modified keyboard.	___	___
10. Use a word processing program.	___	___
11. Set up a data-base file, using a prepared program.	___	___
12. Process a developmental assessment using a prepared program.	___	___
13. Explain the format of tutorials, CAI, simulations, & games.	___	___
14. Locate research and issues on the use of computers in ECE.	___	___
15. Locate software resources.	___	___
16. Preview software for various applications.	___	___
17. Complete a software evaluation.	___	___
18. Write a program using BASIC commands.	___	___

19. Write a program using LOGO commands. ___ ___

20. Relate developmental abilities of children to computing. ___ ___

Please note the approximate time spent using the lab materials, to supplement the workshop presentation.

_____ 1-2 hours per week
_____ 1/2 to 1 hour per week
_____ infrequent use of lab

Supplemental lab experiences were:

_____ an excellent way to review workshop content with direct use
_____ a means for investigating only the areas I was most interested in
_____ of little value due to lack of personal guidance and time

What specific steps and/or tasks do you hope to initiate, for increasing computer use at your site?

Comments:

APPENDIX D:

LETTER OF INVITATION

February, 1986

Dear Day Care Professionals:

Many child care providers are beginning to explore the use and value of microcomputers, for administrative and curricular tasks. As an ongoing part of our staff development program, we are planning a series of training workshops, to introduce you to computer operations for practical application skills. Weekly sessions will be designed to offer direct instructional presentations, hands-on training, and independent lab experiences.

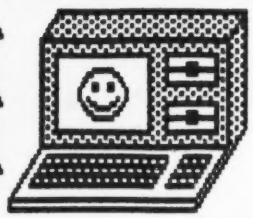
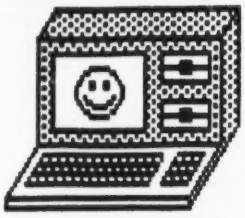
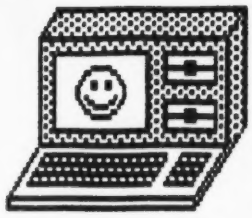
There is no fee or college credit for the seminar series; however, a certificate of participation will be presented upon completion of the workshop. All Purdue University Child Care staff and practicum students are invited to attend, providing they are free from other course work schedules.

An orientation meeting has been scheduled for , at in E-100 of the Porter building. Additional information will be discussed at that time. See you then!

Warmly,

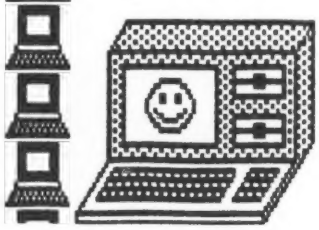
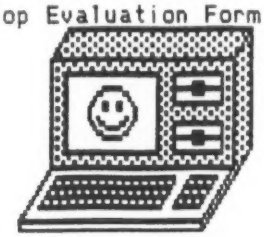
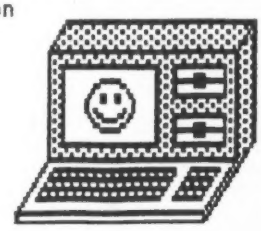
Diane K. Kozubal

Training Consultant

Proposed Workshop Time Line, 1986-7

April	Orientation Meeting, Needs Survey Introduction to General Operations Software Types Evaluating Software
May	Word Processing: Data Base Program: PFS FILE Children and Computers: A Developmental Approach Children and Computers: Keyboards and Tablets
June	Creating Inventory Files
July/August	Use of Media Lab to Preview software
September	LOGO Fun: Commands More LOGO: Turtle Tracks Data Base: PFS REPORT Early Childhood Assessment Program
October	Word Processing: Bank Street Writer Word Processing: Apple Writer Data Base Systems: Record Keeping Data Base Systems: Updating
November	LOGO Fun: Applications with Children
December	Research on Computers in Early Education Implementation Strategies for Day Care Post-test Survey
January/Feb.	Continued Skill Development Application strategies:review and sharing Development of Computer Adoption Time Line
March	Software Demonstration to Curriculum Group Workshop Evaluation Form Distribution

WORKSHOP LOG FORMS

COMPUTER WORKSHOP LOG FORM

SESSION TOPIC :	SKILLS :	LAB EXPERIENCES :
OPERATIONS AND TERMINOLOGY	HARDWARE PARTS SOFTWARE USE TERMINOLOGY CARE OPERATIONS	INITIALIZE A DISK RUN A PROGRAM REVIEW DICTIONARY
COMMENTS:		
SOFTWARE TYPES	CAI TUTORIALS SIMULATIONS GAMES WORD PROCESSING DRILL AND PRACTICE DATA BASE SYSTEM	RUN SELECTED SOFTWARE
COMMENTS:		
EVALUATING SOFTWARE	PROGRAM COMPONENTS EVALUATION FORMAT(S) SOFTWARE REVIEW/DEMO	EVALUATE SELECTIONS
COMMENTS:		
WORD PROCESSING	PRINTSHOP,GRAPHICS BANK STREET WRITER USE OF MENU,PRINTER	CREATE A POSTER WRITE A MEMO/LETTER
COMMENTS:		

SESSION TWO-SOFTWARE TYPES

REVIEW INITIALIZING DISKS USING DOS
REVIEW BACKUP COPY PROCEDURES USING DOS

INTERACTIVE SOFTWARE TYPES:
TUTORIAL:LEARN ABOUT A TOPIC/SKILL
- KINDERCOMP FOR CHILDREN- THE COMPUTER KEYBOARD
- MECC VOLUME 4-URSA CONSTELLATIONS
- GROWGINS FRACTIONS
- APPLE PRESENTS APPLE FOR THE IIE

DRILL AND PRACTICE:REVIEW MATERIAL THROUGH REPETITION
- STICKY BEAR NUMBERS,ABC
- MECC VOLUME 7-CATERPILLAR, TRAIN, A IS FOR APPLE, WUZZLE
- MECC VOLUME 5 PREFIXES
- MECC VOLUME 3 STATES

EDUCATIONAL GAME:A DRILL AND PRACTICE WITH GAME GRAPHICS
- ALIEN ADDITION
- KIDS ON KEYS
- ALPHABET ZOO
- MATH BLASTER
- SHIFTY SAM

SIMULATION:USER IN CHARGE OF A GIVEN TASK/ROLE/POSITION/DECISIONS
- FACEMAKER
- ROCKY'S BOOTS
- MECC VOLUME 4 ODELL LAKE ODELL WOODS
- MECC VOLUME 3 CIVIL WAR, SELL ITEMS
- MECC VOLUME 6 ANY SELECTION

WORD PROCESSING:CREATE TEXT WITH/WITHOUT GRAPHICS
- STORY MACHINE
- KIDWRITER
- PRINTSHOP

CREATIVE:OPEN ENDED USING OF PRE-PROGRAMMED COMMANDS
- DELTA DRAWING
- LOGO
- KINDERCOMP - DRAW AND SCRIBBLE MENU SELECTIONS

COMPUTER CONNECTION FOR TEACHERS AND MICROCOMPUTER AS A TEACHING TOOL CONTAIN TUTORIAL MENU SELECTIONS ON SOME OF THE ABOVE TYPES. REVIEW THEIR CONTENTS BEFORE PREVIEWING SOFTWARE SUGGESTIONS.

SESSION THREE-EVALUATING SOFTWARE

REVIEW DISK COPYING SYSTEM
REVIEW SOFTWARE TYPES

EVALUATING SOFTWARE-CONSIDERATIONS

1. INTERACTION
   - USER CONTROL PACE, SEQUENCE
   - ERROR HANDLING, INPUT CORRECTION
   - EASE OF USE, KEYS OR ALTERNATES
   - FEEDBACK, REWARDS, REINFORCEMENT
   - BRANCHING, TUTORIAL LEVELS
   - ESCAPE FUNCTION, ASSISTANCE FUNCTION

2. PRESENTATION
   - CLEAR INSTRUCTIONS, MENU FORMAT
   - RESPONSE/PROMPT
   - ORGANIZATION OF CURRICULUM MATERIALS/SEQUENCE
   - FRAME DISPLAY, WHOLE SCREEN/SPLIT SCREEN
   - GRAPHICS AND SOUND

3. AUTHORING SYSTEM
   - DOCUMENTATION OF PROCEDURES
   - SKILL LEVEL MODIFICATIONS/OPTIONS
   - MANAGEMENT OF RECORDS/SCORES
   - SPECIAL COMMAND KEYS VS. MENU ACCESS

4. CONTENT
   - ACCURATE, ERROR FREE
   - APPROPRIATE FOR USER
   - FREE FROM BIAS
   - RELATES TO OBJECTIVES FOR USE
   - INDEPENDENT/DEPENDENT ON 2ND SOFTWARE

SAMPLE EVALUATION FORMS
DEMONSTRATION

NOTES:

EDUCATIONAL MEDIA LABORATORY

SOFTWARE APPRAISAL

TITLE _____

PRODUCER _____

FORMAT _____ cassette _____ disk _____ other COMPUTER BRAND _____

MEMORY SIZE REQUIRED _____ GRADE LEVEL _____

SUBJECT AREA _____

BRIEF DESCRIPTION _____

OBJECTIVES _____

***** RATING *****

1 = low 3 = medium 5 = high NA = Not Applicable

User Friendly	1	2	3	4	5	NA
Motivating presentation	1	2	3	4	5	NA
Avoids racial, ethnic and sexual stereotypes	1	2	3	4	5	NA
Relates to curricular needs	1	2	3	4	5	NA
Appropriate graphics	1	2	3	4	5	NA
Directions simple and complete	1	2	3	4	5	NA
Reinforces positive responses	1	2	3	4	5	NA
Treats negative responses appropriately	1	2	3	4	5	NA
Accurate subject content	1	2	3	4	5	NA
Focuses clearly on objectives	1	2	3	4	5	NA
Can respond to varying aptitude levels	1	2	3	4	5	NA
Reading level appropriate	1	2	3	4	5	NA
Back-up copy available	1	2	3	4	5	NA

STRONG POINTS

WEAK POINTS

RECOMMENDED ACTION

Additional notes on back: Yes____ No____

Reviewed by: _____ Date _____

WORD PROCESSING - BANK STREET WRITER - TUTORIAL

WRITE MODE

capacity--1300 words (48K)--3200 words (64K)
cursor movement
38 characters, autowrap
capitalize--shift N + letter
upper case lock--shift NN
back to lower--shift N
delete--back arrow or ESC or EDIT MODE
CONTROL-I indent 8 spaces up to 4X
CONTROL-C center text
CONTROL-S to find out how much space is left

EDIT MODE

add, replace, correct, delete, move
IJKM--cursor movement
B-text beginning
E-text end
U-up 12 spaces
D-down 12 spaces
add/insert sentence--ESC to EDIT MODE
    placement
    ESC to WRITE MODE

TRANSFER OPERATIONS

init/save a document
retrieve a document
rename a document
clear and delete--begin again without re-boot

PRINTING

TRANSFER MENU
PRINT DRAFT--38 characters as on screen
PRINT FINAL--as specified
    characters--65 default--40 to 126
    spacing--1,2,3
    continuation--connecting documents
    pages #--top or bottom
    pause--N is default--Y if single sheets inserted
    eject--Y is default--N if joining documents
    heading--up to 38 characters
    print file entire
    page end--adjust for page breaks/spacing

WORD PROCESSING - BANK STREET WRITER - APPLICATION

SKILL +

WRITE MODE

- capacity--1300 words (48K)--3200 words (64K) ___
- cursor movement ___
- 38 characters, autowrap ___
- capitalize--shift N + letter ___
- upper case lock--shift NN ___
- back to lower--shift N ___
- delete--back arrow or ESC or EDIT MODE ___
- CONTROL-I indent 8 spaces up to 4X ___
- CONTROL-C center text ___
- CONTROL-S to find out how much space is left ___

EDIT MODE

- add, replace, correct, delete, move ___
- IJKM--cursor movement ___
- B-text beginning ___
- E-text end ___
- U-up 12 spaces ___
- D-down 12 spaces ___
- add/insert sentence--ESC to EDIT MODE ___
  - placement
  - ESC to WRITE MODE

TRANSFER OPERATIONS

- init/save a document ___
- retrieve a document ___
- rename a document ___
- clear and delete--begin without re-boot ___

PRINTING

- TRANSFER MENU ___
- PRINT DRAFT--38 characters as on screen ___
- PRINT FINAL--as specified ___
  - characters--65 default--40 to 126
  - spacing--1,2,3
  - continuation--connecting documents
  - pages #--top or bottom
  - pause--N is default--Y if single sheets inserted
  - eject--Y is default--N if joining documents
  - heading--up to 38 characters
  - print file entire
  - page end--adjust for page breaks/spacing

COMPUTER WORKSHOP LOG

SESSION TOPIC	SKILLS	LAB EXPERIENCE
DATA BASE PROGRAM:PFS	DESIGN A FILE ADD A FILE SEARCH FILE PRINT FILE	DESIGN A FILE FOR FUTURE USE, SUCH AS A CHILD'S RECORD, STAFF RECORD, BOOK LIST, EQUIPMENT FORM.

COMMENTS:

CHILDREN AND COMPUTERS: A DEVELOPMENTAL APPROACH	LINK A CHILD'S BASIC SKILLS WITH RELATED COMPUTING SKILLS.	COMPLETE A SKILL FORM FOR AT LEAST FIVE CHILDREN.

COMMENTS:

CHILDREN AND COMPUTERS: KEYBOARDS AND TABLETS	THE INSTALLATION AND USE OF ALTERNATE KEYBOARDS AND GRAPHICS TABLET.	COMPLETE AN EVALUATION FORM FOR EACH TOOL.

COMMENTS:

DEVELOPMENTAL/COMPUTER SKILLS RECORD FORM

	NAMES									
PHYSICAL DEVELOPMENT										
1.Pincer grasp										
2.Manipulate objects										
3.Pointer Grasp										
4.Hold tool										
5.Focus on display										
6.Visual Orientation										
7.Visual scan										
COGNITIVE DEVELOPMENT										
1.Receptive Language										
2.Expressive Language										
3.Spoken/Written Association										
4.Interest in Symbols										
5.Identify Symbols										
6.Same/Different Concept										
7.Follow Directive Sequence										
MATH AND SCIENCE										
1.Shape Recognition/Name										
2.One to One Correspondence										
3.Counts and Conserves to 10										
4.Identifies numerals										
5.Estimates distance										
6.Sound Discrimination										
7.Cause and Effect										

COMMENTS/OBSERVATION:

Observational Data Sheet

Date:
Session: AM-PM
Time: IN-OUT
User: M-F

Software Title:
Type: DP-T-C
Menu Selected:
Prompt Type:

Grouping: Solitary-Peer M-F
Handedness: R-L
Assigned-Self Choice
Change: Selection-Center

Trials: + -
Keyboard: Regular-Modified
Reinforcement Type:
Other: _____

****

USER INTERACTION VARIABLES

dual purpose key confusion
hit wrong key
respond without return
respond with return unnecessary
repeat key error
location of key letter-number
response time lapse
hit reset key
hit space bar
unknown error
other:

SENSORY VARIABLES

verbal comment + -
expressive + -
tactile on screen
manipulative usage
attention distractor

ASSISTANCE REQUEST(S)

parameter reset
disk operation/boot
program selection
key location
menu interpretation
text/directive interpret
program interruption
repeat error-correction

COMMENTS-OBSERVATIONS

For use as you observe children at a computer learning station or computer interest center. (Kozubal, 1985)

RESOURCES FOR COMPUTING LOG FORM

LISTING	CONTENTS/COMMENTS

JOURNALS/MAGAZINES
- CHILD CARE INFORMATION EXCHANGE
- YOUNG CHILDREN
- BEGINNINGS
- DAY CARE AND EARLY CHILDHOOD EDUCATION
- EARLY YEARS
- EDUCATIONAL TECHNOLOGY
- INCIDER
- NIBBLE
- CREATIVE COMPUTING
- A+
- PC
- PERSONAL COMPUTING
- PERSONAL SOFTWARE
- FAMILY COMPUTING
- COMPUTER SHOPPER
- THE COMPUTING TEACHER
- TEACHING AND COMPUTERS

ERIC FILE SYSTEM
CIJE
PSYCHOLOGICAL ABSTRACTS
EDUCATION INDEX
RGTPLITERATURE
ENQUIRY RESEARCH

NEWSLETTERS
- LIBRARY REPROTS
- HI-SCOPE:KEYNOTES
- COMPUTERTOWN
- APPLENEWS
- INDIANA DEPARTMENT OF EDUCATION
- FAMILY GUIDE TO ED. SOFTWARE

MISC.
- KIDCARE SYSTEM
- GUIDE TO EDUCATIONAL SOFTWARE
- COMPUTER CONFIDENCE
- SERIES RESOURCES

CATALOGUES
- SUNBURST
- SPRINGBOARD
- XEROX
- BRODERBUND
- SPINNAKER
- THE LEARNING COMPANY

DISCOUNT PURCHASING AGENTS
- PC
- NORTHEASTERN SOFTWARE
- SILICON EXPRESS

WORKSHOP RESOURCES

RESOURCE MATERIALS

NON-PRINT MEDIA :

Vance, Adrian. (Author). Computer Basics (Filmstrip Series). California: Adrian Vance Productions. Titles: Do You Need a Computer?, How Do Computers Work?, How To Program a Computer, What Do Computers Mean?, The Software Question, What is a Computer?, Disks-Drives-and DOS, Applications Programs, Information Systems. How To Use a Computer.

HARDWARE AND PERIPHERALS :

APPLE II+ System with two disk drives and EPSON printer.
KOALOAWARE Touch Tablet
MUPPETS LEARNING KEYS
TURTLE TOT ACCESSORY

PERIODICALS AND NEWSLETTERS :

Teaching and Computers
Family Computing
KeyNotes/High Scope Newsletter
InCider
A+
MicroNotes/ERIC Newsletter
Early Years
Educational Computer
Young Children
Early Child Development and Care
Creative Computing

WORKBOOKS, REFERENCE MATERIALS AND GUIDES :

Bearden, Donna. (1983). 1,2,3 My Computer & Me . Virginia: Reston Publishing Co., Inc.

Chasen, Shelley. (1984). Basic Computing: Skills Books D.E.F . New York: Scholastic, Inc.

Conniffe, Patricia. (1984). Computer Dictionary . New York: Scholastic, Inc.

Electronic Learning . (September,1983-June, 1984). In-Service Workshop Series. 3 (1),90-93, 3 (8),1-8.

Feeman, Maryellen. (1984). Basic Programming . Ohio: Carson-Dellosa Publishing Co.,Inc.

Feeman, Jeff. (1984). Discovery Learning with Logo I . Ohio: Carson-Dellosa Publishing Co.,Inc.

Fowler, Christopher. (1984). Computer Terms:Hardware . Ohio: Carson-Dellosa Publishing Co.,Inc.

Hanavan, Patricia. (1984). Basic Computing . New York: Scholastic, Inc.

Joseph, Helen. (1983). Apple for the Beginner Beginner . California:Enrich/Ohaus.

Maddox, Hannelore. (1984). Computer Capers . California:Stokes Publishing Co.

Papert, Seymour. (1980). Mindstorms . New York: Basic Books.

Prentice, Lloyd R. (1983). Computer Confidence . New York: The Instructor Publications.

Relf, Patricia. (1984). Computer Thinking . New York: Scholastic, Inc.

Richman, Ellen. (1982). Spotlight on Computer Literacy . New York: Random House, Inc.

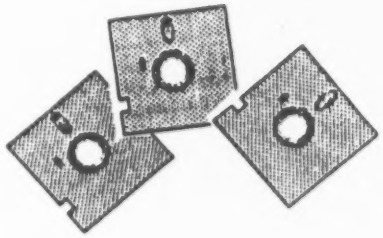
Rittenour, Gary. (1984). Computer Terms:Software . Ohio: Carson-Dellosa Publishing Co., Inc.

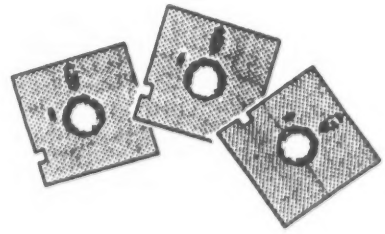
Educational Media Lab

Instructional Resource Center

Software Catalog

Fall 1986





Gyte 143 Ext 524

EDUCATIONAL MEDIA LAB
INSTRUCTIONAL RESOURCE CENTER
GYTE 143 EXT 524

MON - THURS 8:00 AM - 9:30 PM
FRI 8:00 AM - 5:00 PM
SAT 9:00 AM - NOON

The following is an alphabetical listing of over 800 computer software programs and related documentation that are available in the **Educational Media Lab/Instructional Resource Center (EML/IRC)**. Since January, 1986, there have been 150 new titles added to the collection. The software collection includes all MECC (Minnesota Educational Computing Corporation) programs, Public Domain discs, and Freeloader discs. There are software programs compatible with Apple, Commodore, and IBM computers.

The software is available for students, staff, and faculty to preview in the computer lab of the **EML/IRC**, or check out for a designated period of time. Check out procedures are outlined on the reverse side. Area teachers and resource people are also able to preview software, but only in the **EML/IRC**.

The Public Domain software collection, is not listed in this catalog but is housed with the other 800 pieces of software in the **EML/IRC**.

COMPUTER SOFTWARE CHECK-OUT PROCEDURES

FOR EDUCATIONAL MEDIA LAB - INSTRUCTIONAL RESOURCE CENTER G-143

With so many students previewing software each semester, it has become necessary to develop and inforce the following procedures to ensure each student is properly accomodated. Your cooperation in following these guidelines will be appreciated by your fellow classmates and the EML/IRC staff.

****

--Alphabetical and Numerical books list the complete software collection and are available at the work/study desk and throughout the computer lab area.

--Check these listing to obtain a catalog number of the program title you desire. A separate listing of programs according to specific categories for classes is also available at the work/study desk.

--Give the catalog number of the program you need to the work/study student or **That person** will get the software out of the cabinets for you. **Please do not remove software yourself.**

--Fill out the form in the back of the software file folder. Remember to include your phone number. **You must sign this sheet even if you are previewing within the computer lab.**

--If you are removing the software from the lab, you have one **week to return it.**

--You may take out as many as three (3) software programs at one time.

--When returning the software, make sure you hand it to the work/study person, or drop it in the hanging shelf inside the computer lab.

--**All software must be returned one week prior to the end of the semester** for inventory purposes.

Please note that there are some programs that are in constant use in the Media Lab (Print Shop, MECC Writer, Bank Street Writer, Introduction to Apple, Crossword Magic, and several others). These programs have been reserved and marked accordingly on the file. **Please do not remove these from the lab as this will cause an inconvenience to others.

FILE TITLE	FILE NO	COMPUTER REQUIRED
101 ACTIV./COMP.MAN-MECC	446.0	APPLE II
80-COLUMN TEXT CARD MANUAL	480.0	APPLE
A-V CATALOG WRITER DISK	755.1	APPLE
A-V CATALOG WRITER MANUAL	755.0	APPLE
A-V DATA DISK	755.2	APPLE
ADD/SUBTRACTING DISK	635.1	COMMODORE 64
ADDITION LOGICIAN DISK-MECC	582.1	APPLE
ADDITION LOGICIAN MAN-MECC	582.0	APPLE
ADDITION MAGICIAN DISK	748.1	APPLE,IBM,COMMODORE
ADDITION MAGICIAN MAN.	748.0	APPLE,IBM,COMMODORE
ADDITION/SUBSTRACTION DISK 3	734.3	APPLE
ADJENDS & RELPROS GERMAN MAN	650.0	APPLE
ADJENDS AND RELPROS DISK	650.1	APPLE
ADV. APPLE BASIC DISK-MECC	530.1	APPLE
ADV. APPLE BASIC MAN.-MECC	530.0	APPLE
ADVENTURES IN MATH DISK	295.1	IBM
ADVENTURES IN MATH MANUAL	295.0	IBM
ADVENTURES W/FRACT. DK-MECC	544.1	APPLE
ADVENTURES W/FRACT.MAN-MECC	544.0	APPLE
AESTHEOMETRY DISK-MECC	536.1	APPLE
AESTHEOMETRY MANUAL-MECC	536.0	APPLE
AGRICULTURE DISK-MECC	461.1	APPLE
AGRICULTURE MANUAL-MECC	461.0	APPLE
AL'S LOGO WIZ-KIT DISK	799.1	APPLE 6-86
AL'S LOGO WIZ-KIT MANUAL	799.0	APPLE 6-86
ALICIA DISK	227.1	APPLE
ALICIA MANUAL	227.0	APPLE
ALPHABET SOUNDS DISK	672.1	APPLE
ALPHABET SOUNDS MAN.	672.0	APPLE
ALPHABETIZE MAN.	648.0	APPLE
ALPHABETIZE DISK	648.1	APPLE
ALPINE SKIER DISK	663.1	APPLE
ALPINE SKIER MAN.	663.0	APPLE
AN INTRODUCTION	814.1	APPLE 8-86
ANAGRAMAS HISPANOAMERICANOS	773.1	APPLE 2/86
ANDROMEDA CONFLICT DISK2	074.1	APPLE
AP-16K MEMORY EXPANSION MOD.	142.0	APPLE
APPLE II REFERENCE MANUAL	024.0	APPLE
APPLE ASSEMBLEY LANG DK-MECC	508.1	APPLE
APPLE ASSEMBLEY LANG MN-MECC	508.0	APPLE
APPLE COLOR PLOTTER ED TUTOR	561.2	APPLE II
APPLE DEMO 2 DISK	038.1	APPLE
APPLE DEMO 3 DISK	475.1	APPLE
APPLE DEMO 4 DISK	476.1	APPLE
APPLE DEMO 5 DISK	477.1	APPLE
APPLE DEMO 6 DISK	478.1	APPLE
APPLE DEMO DISK-1	095.1	APPLE
APPLE DEMO DISK-1 MECC	554.1	APPLE
APPLE GRAPH. INITIALIZED DSK	600.4	APPLE
APPLE GRAPH. TABLT.BCKUP DSK	600.3	APPLE
APPLE GRAPHICS INSTALL. MAN.	600.1	APPLE
APPLE GRAPHICS TABLET DISK	600.2	APPLE
APPLE GRAPHICS TABLET MANUAL	600.0	APPLE
APPLE II REFERENCE MANUAL	024.0	APPLE

FILE TITLE	FILE NO	COMPUTER REQUIRED
APPLE II USER'S GUIDE-MECC	457.0	APPLE
APPLE II:BASIC PROGRAM MAN.	023.0	APPLE
APPLE IIE OWNER MANUAL	286.0	APPLE IIE
APPLE LOGO DISK	798.1	APPLE 6-86
	798.2	APPLE 6-86
APPLE LOGO II 2 MAN.	607.0	APPLE
APPLE LOGO II DISK	607.1	APPLE
APPLE LOGO II PROG. DISK	607.2	APPLE
APPLE LOGO MANUAL	798.0	APPLE 6-86
APPLE LOGO/CLASS. MAN.-MECC	467.0	APPLE
APPLE LOGO/CLASS.DISK-MECC	467.1	APPLE
APPLE MONITOR IIC USER'S MAN	556.0	APPLE IIC
APPLE PASCAL DISK-MECC	465.1	APPLE
APPLE PASCAL GUIDE-MECC	465.0	APPLE
APPLE SPICE DISK	018.1	APPLE
APPLE SPICE MANUAL	018.0	APPLE
APPLE SYSTEM UTILITIES	813.1	APPLE 8-86
APPLE WORKS DISK	816.1	APPLE 8-86
APPLE WORKS MANUAL	816.0	APPLE 8-86
APPLE WORKS TUTORIAL DISK	817.1	APPLE 8-86
APPLE WORKS TUTORIAL MAN	817.0	APPLE 8-86
APPLE WRITER DISK	764.1	APPLE
APPLESOFT BASIC DISK-MECC	462.1	APPLE
APPLESOFT DISK MECC	073.1	APPLE
APPLESOFT II:BASIC PROG. REF.	023.0	APPLE
APPLESOFT MANUAL MECC	073.0	APPLE
APPLESOFT SPEC. FEATURES DISK	597.1	APPLE
APPLESOFT SPEC. FEATURES MAN	597.0	APPLE II
APPLESOFT TUTORIAL	025.0	APPLE
APPLESOFT TUTORIAL MANUAL	025.0	APPLE
AQUARIUS ADJECTIVES DISK	238.3	APPLE
AQUARIUS DIAGRAMING V DISK	236.5	APPLE
AQUARIUS DIAGRAMMING I DISK	236.1	APPLE
AQUARIUS DIAGRAMMING II DISK	236.2	APPLE
AQUARIUS DIAGRAMMING IV DISK	236.4	APPLE
AQUARIUS DIAGRAMMING MANUAL	236.0	APPLE
AQUARIUS DIAGRAMMING-3 DISK	236.3	APPLE
AQUARIUS LANG. SKILLS MANUAL	238.0	APPLE
AQUARIUS NOUNS DISK	238.1	APPLE
AQUARIUS PHR./CLAUSES DISK	238.7	APPLE
AQUARIUS POSS. CASE DISK	238.10	APPLE
AQUARIUS PREP./CONJ. DISK	238.6	APPLE
AQUARIUS PRONOUNS DISK	238.2	APPLE
AQUARIUS PUNC./CAP. DISK	238.9	APPLE
AQUARIUS VERB TENSES DISK	238.5	APPLE
AQUARIUS VERBS/ADV. DISK	238.4	APPLE
AQUARIUS WORD CHOICE DISK	238.8	APPLE
ARITH 2 DISK	031.0	TRS-80
ARITH 4 DISK	035.0	TRS-80
ARITH-MAGIC DISK	664.1	APPLE
ARITH-MAGIC MAN.	664.0	APPLE
ARITHMATIC 1 DISK	030.0	TRS-80
ART(PERSPECTIVE DRAWING)DISK	552.1	APPLE
ART(PERSPECTIVE DRAWING)MAN.	552.0	APPLE

FILE TITLE	FILE NO	COMPUTER REQUIRED
AST I/O PLUS II MANUAL	254.2	IBM
AST SUPER PAK DISK	254.1	IBM
AST SUPER PAK MANUAL	254.0	IBM
ATARI 400/800 BASIC REF. MAN	100.0	ATARI
ATARI 400/800 MASTER DISK	101.1	ATARI
ATARI 400/800 OPERATORS MAN.	101.0	ATARI
ATARI BASIC MANUAL	097.0	ATARI
AUTO TECHN. MATH MAN.-MECC	445.0	APPLE II
AUTO TECHN.MATH DISK-MECC	445.1	APPLE II
AUTO. TECH. MATH 2 MAN.-MECC	504.0	APPLE
AUTO.TECH. MATH 2 DISK-MECC	504.1	APPLE
AUTOMATED BROCHURE DISK	056.0	APPLE
AVA DISK #3 - AUTHOR	124.3	APPLE
AVA DISK #4 - DATA	124.4	APPLE
AVA MANUAL	124.0	APPLE
BAFFLES DISK	279.1	APPLE
BAFFLES MANUAL	279.0	APPLE
BALANCE DISK	114.1	APPLE
BALANCE MANUAL	114.0	APPLE
BANK STREET WRITER DISK # 3	013.3	APPLE
BANK STREET WRITER DISK #1	013.1	APPLE
BANK STREET WRITER DISK #2	013.2	APPLE
BANK STREET WRITER MANUAL	013.0	APPLE
BASEBALL 1 DISK	107.0	APPLE
BASIC ARITH. DRILL DISK	014.1	ATARI
BASIC ARITHMETIC; DRILLS MAN	014.0	ATARI
BASIC COMP. GAMES;TRS-O MAN.	135.0	TRS-80
BASIC DSGN/PRGM MAN-MECC	588.0	APPLE
BASIC DSGN/PRGM. DISK-MECC	588.1	APPLE
BASIC NO. FACTS DISK	005.1	APPLE
BASIC NUMBER FACTS MANUAL	005.0	APPLE
BASIC TUTOR 1 DISK	105.0	APPLE
BASIC VOCAB. DISK 1	673.1	APPLE
BASIC VOCAB. DISK 2	673.2	APPLE
BASIC VOCAB. DISK 3	673.3	APPLE
BASIC VOCAB.(SP,FR,GER,ITAL)	673.0	APPLE
BASKETBALL STATS. DISK-MECC	455.1	APPLE
BASKETBALL STATS.MAN-MECC	455.0	APPLE
BEGIN. APPLESOFT BASIC MECC D	758.1	APPLE 12-85
BEGIN. APPLESOFT BASIC MECC M	758.0	APPLE 12-85
BEMOD DISK	060.0	APPLE
BIOCHEM. GENETICS DISK	325.2	APPLE
BIOLOGY DEMO DISK	318.0	APPLE
BIOLOGY KEYWORD I DISK	328.3	TRS-80
BIOLOGY KEYWORD I MANUAL	328.1	TRS-80
BIOLOGY TEST MAKER MANUAL	325.0	APPLE
BIRDBREED DISK	132.1	APPLE
BIRDBREED MANUAL	132.0	APPLE
BLISS DRILLS DISK-MECC	460.1	APPLE
BLISS DRILLS MANUAL-MECC	460.0	APPLE
BLISS LIBRARY DISK-MECC	449.1	APPLE
BLISS LIBRARY MANUAL-MECC	449.0	APPLE
BLISSBOARD DISK-MECC	450.1	APPLE
BLISSBOARD MANUAL-MECC	450.0	APPLE
BLISSYMBOL CONCEPT DSK-MECC	452.1	APPLE

FILE TITLE	FILE NO	COMPUTER REQUIRED
BLISSYMBOL CONCEPTS MAN-MECC	452.0	APPLE
BODY TRANSPARENT DISK	618.1	APPLE
BODY TRANSPARENT MAN.	618.0	APPLE
BOOK WORM MECC DISK	720.1	APPLE 10-85
BOOK WORM MECC MAN.	720.0	APPLE 10-85
BOUNTY HUNTER DISK	637.1	APPLE
BUILD A BOOK DISK	674.1	APPLE
BUILD A BOOK MAN.	674.0	APPLE
BUMBLE PLOT DISK	297.1	IBM
BUMBLE PLOT MANUAL	297.0	IBM
BUS 1 DISK	027.1	TRS-80
BUSINESS ED. VOL.1 DISK-MECC	512.1	APPLE
BUSINESS EDUC.VOL.1 MAN-MECC	512.0	APPLE
BUSINESS UTIL. MECC DISK	714.1	APPLE 10-85
BUSINESS UTIL. MECC MAN.	714.0	APPLE 10-85
BUSINESS VOL.3 #721 DSK-MECC	513.1	APPLE
BUSINESS VOL.3 #721 MAN-MECC	513.0	APPLE
BUSINESS;VOL.1 DISK-MECC	456.1	APPLE
BUSINESS;VOL.2 MANUAL-MECC	456.0	APPLE
CALICO'S FICTION FINDER DISK	756.1	APPLE
CALICO'S FICTION FINDER MAN.	756.0	APPLE
CAREER DIR. DATA BASE DISK	289.1	APPLE
CAREER DIR. PROGRAM DISK	289.2	APPLE
CAREER DIRECTIONS MANUAL	289.0	APPLE
CASH VS. CREDIT BUYING DISK	094.1	APPLE
CASH VS. CREDIT BUYING MAN.	094.0	APPLE
CAT.CARD/LABEL WRITER DISK	006.1	APPLE
CATALOG CARD & LABEL MANUAL	006.0	APPLE
CCF;COMMON COMMU. FORMAT MAN	273.0	
CHALLENGE MATH DISK	080.1	APPLE
CHALLENGE MATH MANUAL	080.0	APPLE
CHAPTER REVIEW DISK	259.1	APPLE
CHARTING A PATH DISK-MECC	464.1	APPLE
CHARTING A PATH MANUAL-MECC	464.0	APPLE
CHEM LAB DISK	815.1	APPLE 8-86
CHEM LAB MANUAL	815.0	APPLE 8-86
CHEM LAB SIM #2 DISK	356.1	APPLE
CHEM LAB SIM #2 MANUAL	356.0	APPLE
CHEM LAB SIM #4	357.1	APPLE
CHEM LAB SIM #4 MANUAL	357.0	APPLE
CIRCUS MATH DISK-MECC	570.1	APPLE
CIRCUS MATH MANUAL-MECC	570.0	APPLE
CLASSIFICATION DISK-MECC	441.1	APPLE II
CLASSIFICATION MAN.-MECC	441.0	APPLE II
CLIP ART COLLECTION DISK	745.1	APPLE 11-85
CLIP ART COLLECTION MAN.	745.0	APPLE 11-85
CLOCKS DISK	659.1	APPLE
CLOCKS MAN.	659.0	APPLE
CLOZE PLUS DISK	231.1	APPLE
CLOZE PLUS MANUAL	231.0	APPLE
CMPT TLS. DATABASES DSK-MECC	591.1	APPLE
CMPT TLS.;WORD PROC DK-MECC	590.1	APPLE
CMPT TLS;WRD.PR. MN-MECC	590.0	APPLE
CMPT. TLS. DATABASES MN-MECC	591.0	APPLE
CMPTR. CONNECT./TEACH. DISK	331.2	APPLE

FILE TITLE	FILE NO	COMPUTER REQUIRED
CMPTR.CONNECT./TEACHERS DISK	331.1	APPLE
CMPTRS/GOV. MANUAL-MECC	579.0	APPLE
CMPTRS/TEACH V1 DISK-MECC	586.1	APPLE
CMPTRS/TEACH V1 MAN.-MECC	586.0	APPLE
CMPTRS/TEACH V2 MAN-MECC	586.2	APPLE
CMPTRS/TEACHING V2 DISK-MECC	586.3	APPLE
COLOR PLOTTER USER MAN.-P1	561.0	APPLE II
COLOR PLOTTER USER MAN.-P2	561.1	APPLE II
COMMENT DIT-ON? DISK	690.1	APPLE
COMMENT DIT-ON? MANUAL	690.0	APPLE
COMMODORE 1541 DRIVE MANUAL	479.1	COMMODORE
COMMODORE USER'S GUIDE	479.0	COMMODORE
COMMODORE VIC-1541 DISK	479.2	COMMODORE
COMO SE DICI ? DISK	669.1	APPLE
COMO SE DICI? MAN.	669.0	APPLE
COMP. IN MATH CUR. MAN-MECC	592.0	APPLE
COMP. TOOLS:GRADE MAN.-MECC	593.0	APPLE II
COMP.&INFO.TEACH GUIDE MECC M	716.0	APPLE 10-85
COMP.DRILL & INSTR.(MATH)	753.2	APPLE II
COMP.TOOLS:APPLEWORKS MECC DI	718.1	APPLE 10-85
COMP.TOOLS:APPLEWORKS MECC MA	718.0	APPLE 10-85
COMPREHENSION POWER DISK	230.1	APPLE
COMPREHENSION POWER MANUAL	230.0	APPLE
COMPTR CONNECT./TEACHERS MAN	331.0	APPLE II/E
COMPUTER CONNECTION 4 DISK	250.1	APPLE
COMPUTER CONNECTION DISK-1	250.0	APPLE
COMPUTER DISCOVERY (MATH) DK.	753.1	APPLE II
COMPUTER GEN.MATH VOL.2 DISK	726.1	APPLE 10-85
COMPUTER GEN.MATH VOL.2 MAN.	726.0	APPLE 10-85
COMPUTER LITERACY DISK	062.1	APPLE
COMPUTER/GOVERNMENT DSK-MECC	579.1	APPLE
COMPUTERS IN BIO. CURR. MAN.	303.0	
COMPUTERS IN EDUCATION BOOK	139.0	
COMPUTERS IN SCHOOL BOOK	028.0	
CONCEPTS (+,-,X,/) DISK 1	693.1	APPLE
CONCEPTS (+,-,X,/) DISK 2	693.2	APPLE
CONCEPTS (+,-,X,/) MAN.	693.0	APPLE
CONDUIT "SAMP" DISK	121.1	APPLE
CONDUIT "SAMP" MANUAL	121.0	APPLE
CONDUIT (NEWTON)	277.1	APPLE
CONDUIT: TRIGONOMETRY DISK	736.1	APPLE 11-85
CONDUIT: TRIGONOMETRY MAN.	736.0	APPLE 11-85
COUNTING (GR. K-3) DISK	634.1	APPLE
COUNTING DISK	625.0	APPLE
COUNTING PLUS DISK	217.1	APPLE
COUNTING PLUS MANUAL	217.0	APPLE
CREATE A BASE MECC DISK	728.1	APPLE 10-85
CREATE A BASE MECC MAN.	728.0	APPLE 10-85
CREATE LESSON DISK-2	619.2	APPLE
CREATE LESSONS DISK	619.1	APPLE
CREATE LESSONS DISK-3	619.3	APPLE
CREATE LESSONS DISK-4	619.4	APPLE
CREATE LESSONS MAN.	619.0	APPLE
CREATURE CREATOR DISK	682.1	APPLE
CREATURE CREATOR MAN.	682.0	APPLE

FILE TITLE	FILE NO	COMPUTER REQUIRED
CROSS ED DEMO DISK-2	315.1	APPLE
CROSS ED. DEMO DISK	313.1	APPLE
CROSSWORD MAGIC MAN.	739.0	APPLE 11-85
CROSSWORD MAGIC DISK	739.1	APPLE 11-85
DATA HANDLER TEACH DISK-MECC	564.1	APPLE
DATA HANDLER TEACH MAN-MECC	564.0	APPLE
DATA HANDLEY DISK	193.0	APPLE
DATAQUEST:PRESIDENTS MECC DK1	705.1	APPLE 10-85
DATAQUEST:PRESIDENTS MECC DK2	705.2	APPLE 10-85
DATAQUEST:PRESIDENTS MECC MAN	705.0	APPLE 10-85
DECIMALS: ADD/SUBTR. DISK	091.3	APPLE
DECIMALS: MULTIP./DIV. DISK	091.2	APPLE
DECIMALS: PRACTICE DISK	002.1	APPLE
DECIMALS: PRACTICE MANUAL	002.0	APPLE
DEES IBM LOGO DISK 1	237.1	IBM
DEES IBM LOGO DISK 2	237.2	IBM
DEES IBM LOGO MAN.	237.0	IBM
DELTA DRAWING DISK	004.1	APPLE
	795.1	APPLE 6-86
DELTA DRAWING MANUAL	004.0	APPLE
	795.0	APPLE 6-86
DEMO DISK	260.0	APPLE
DESIGN COMP. VOL.2 DISK2	017.5	APPLE
DESIGN INSTR. COMP. DISK	017.1	APPLE
DESIGN INSTR. COMP. DISK2	017.2	APPLE
DESIGN INSTR. VOL2 DISK	017.4	APPLE
DESIGN INSTR.COMP.MATR. MAN.	017.3	APPLE
DESIGN. INSTR. COMP. MAN-MECC	494.0	APPLE
DESIGN. INSTR.COMP.MATRL.MAN	017.0	APPLE
DESIGN.INSTR.COMP.DISK-MECC	494.1	APPLE
DIFFUSION GAME DISK	278.2	APPLE
DIFFUSION GAME MANUAL-1	278.0	APPLE
DIFFUSION GAME MANUAL-2	278.1	APPLE
DINOSAURS DISK 1	662.1	APPLE
DINOSAURS DISK 2	741.1	APPLE 11-85
DINOSAURS MAN. 2	741.0	APPLE 11-85
DINOSAURS MAN.1	662.0	APPLE
DIRECT & INDIRECT ABJECTS	774.1	APPLE 2/86
DISCOVERY LAB DISK-MECC	585.1	APPLE
DISCOVERY LAB MANUAL-MECC	585.0	APPLE
DISCRP./COMPUTER SIMULATIONS	138.0	
DISK #1 AVA-MANAGEMENT	124.1	APPLE
DISK II INSTALLATION MANUAL	286.4	APPLE
DISK#2 AVA - LESSON	124.2	APPLE
DIV. ANIMALS/PLANTS DISK	325.1	APPLE
DONALD DUCK'S PLAYGROUND DK.	735.1	COMMODORE 64 11-85
DONALD DUCK'S PLAYGROUND MAN	735.0	COMMODORE 64 11-85
DOS 3.3	765.1	APPLE
DOS 3.3 SYS. MASTER DISK	286.7	APPLE IIE
DOS DISK	020.1	APPLE
	292.1	IBM
DOS MANUAL	020.0	APPLE

FILE TITLE	FILE NO	COMPUTER REQUIRED
DOS SUPPLEMENTAL PROGR. DISK	292.2	IBM
DR. LOGO DISK1	271.1	IBM
DR. LOGO DISK2	271.2	IBM
DR. LOGO LANGUAGE MAN.	271.0	IBM
DRIVERS ED/INDST.ART DK-MECC	498.1	APPLE
DRIVERS ED/INDST.ART MN-MECC	498.0	APPLE
DSGN.INSTR.COMP.MAT.MAN-MECC	494.0	APPLE
DUCKS DISK-MECC	569.1	APPLE
DUCKS MANUAL-MECC A107	569.0	APPLE
E-Z LOGO MECC DISK REV.	432.1	APPLE
EARLY ADDITION DISK-MECC	466.1	APPLE
EARLY ADDITION MANUAL-MECC	466.0	APPLE
EARLY GAMES FOR CHILDREN DISK	628.1	APPLE
EARLY GAMES FOR CHILDREN MAN.	628.0	APPLE
EASY AS ABC DISK	644.1	APPLE
EASY AS ABC MAN.	644.0	APPLE
ED DEMO DISK	106.1	APPLE
ED FILE BY SUBJECT MANUAL	257.0	APPLE
ED MEDIA 1 DISK	039.1	TRS-80
ED PSY 1 DISK	042.1	TRS-80
ED530 CHAPTERS/UNIT-POSTDISK	263.1	APPLE
EDITOR MECC DISK	701.1	APPLE 10-85
EDITOR MECC MAN.	701.0	APPLE 10-85
EL ASISTENTE INST. DISK-MECC	595.1	APPLE
EL ASISTENTE INST. MAN-MECC	595.0	APPLE II
ELECTR.SPRDSHT. DISK-MECC	473.1	APPLE
ELECTR.SPRDSHT. MAN.-MECC	473.0	APPLE
ELECTRONIC MONEY DISK MECC	506.1	APPLE
ELECTRONIC MONEY MAN.-MECC	506.0	APPLE
ELEM(MATH/SCI.)V4 DISK-MECC	534.1	APPLE
ELEM. BIOLOGY GUIDE DISK	098.1	APPLE
ELEM. BIOLOGY GUIDE MANUAL	098.0	APPLE
ELEM.(GEOMETRY)V9 DSK-MECC	543.1	APPLE
ELEM.(GEOMETRY)V9 MAN.-MECC	543.0	APPLE
ELEM.(MATH/SCI.)V4 MAN-MECC	534.0	APPLE
ELEM.(PREREADING/COUNT)DISK	202.0	APPLE
ELEMEN. VOL.13 NUTRITION DISK	725.1	APPLE 10-85
ELEMEN. VOL.13 NUTRITION MAN.	725.0	APPLE 10-85
ELEMENTARY BIOLOGY MANUAL	098.0	ATARI
ELEMENTARY VOL.13 DISK-MECC	515.1	APPLE
ELEMENTARY VOL.13 MAN. MECC	515.0	APPLE
ELEMENTARY VOL.3 DISK-MECC	454.1	APPLE
ELEMENTARY VOL.3 MAN.-MECC	454.0	APPLE
ELEMENTARY VOL.7 DISK-MECC	444.1	APPLE II
ELEMENTARY VOL.7 MAN.-MECC	444.0	APPLE II
ELEMENTARY(MATH):V1 DSK-MECC	550.1	APPLE
ELEMENTARY(MATH):V1 MAN-MECC	550.0	APPLE
ELEMENTARY: VOL.1 DISK-MECC	507.1	APPLE
ELEMENTARY: VOL.1 MAN.-MECC	507.0	APPLE
ELEMENTARY: VOL.11 DISK-MECC	459.1	APPLE
ELEMENTARY:V.12 DISK-MECC	495.1	APPLE
ELEMENTARY:VOL. 11 MAN.-MECC	459.0	APPLE
ELEMENTARY:VOL.5 DISK-MECC	535.1	APPLE
ELEMENTARY:VOL.5 MAN.-MECC	535.0	APPLE
ELEMENTARY:VOL.6 DISK-MECC	527.1	APPLE

FILE TITLE	FILE NO	COMPUTER REQUIRED
ELEMENTARY:VOL.6 MAN.-MECC	527.0	APPLE
ELEMENTARY:VOL.8 DISK-MECC	540.1	APPLE
ELEMENTARY:VOL.8 MAN-MECC	540.0	APPLE
ELEMENTARY;V.12:MAN.-MECC	495.0	APPLE
ENERGY HOUSE MECC DISK	757.1	APPLE 12-85
ENERY HOUSE MECC MAN.	757.0	APPLE 12-85
ENG 1 DISK	044.1	TRS-80
ENG. GRAMMAR/TEACHER DISK	343.1	APPLE
ENGL. (PTS.OF SPEECH)DK-MECC	541.1	APPLE
ENGL. BASIC MECH.:4A-1 DISK	219.0	APPLE
ENGL. BASIC MECH.:4A-2 DISK	241.0	APPLE
ENGL. BASIC MECH.:4B-1 DISK	219.1	APPLE
ENGL. BASIC MECH.:4B-2 DISK	241.1	APPLE
ENGL.(PTS.OF SPEECH)MAN-MECC	541.0	APPLE
ENGLISH GRAMMAR DRILLS/V.1	335.1	APPLE
ENGLISH GRAMMAR/STUDENT DISK	334.0	APPLE II+/E
ENGLISH GRAMMER MANUAL	233.0	APPLE
ENZYME DISK	115.1	APPLE
ENZYME DISK #2	116.1	APPLE
ENZYME MANUAL #1	115.0	APPLE
ENZYME MANUAL #2	116.0	APPLE
EPSON PRINTER MANUAL	022.0	PRINTER
EPSON PRINTER MANUAL;GRAFTX	120.0	EPSON PR.
EXPERIENCING PROCEDURES DISK	596.1	APPLE
EXPERIENCING PROCEDURES MAN.	596.0	APPLE II
EXPL. ROUTINE DISK-MECC	571.1	APPLE
EXPLORER METROS DISK	079.1	APPLE
EXPLORER METROS MANUAL	079.0	APPLE
EXPLORING ROUTINES MAN-MECC	571.0	APPLE
EXTEN. APPLE BASIC DK-MECC	524.1	APPLE
EXTEN.APPLE BASIC MAN-MECC	524.0	APPLE
EXTIMATION DISK -MECC	581.1	APPLE
EXTIMATION MANUAL- MECC	581.0	APPLE
EZ LOGO DISK-MECC	432.1	APPLE
EZ LOGO MANUAL-MECC	432.0	APPLE II
FACT TRACK & BEANO	753.6	APPLE II
FACTORING WHOLE NO. #7 DISK	012.7	APPLE
FACTORING WHOLE NO. #8 DISK	012.8	APPLE
FACTORY DISK	016.1	ATARI
FACTORY MAN.	016.0	ATARI
FAM. & FORMAL COMMANDS	775.1	APPLE 2-86
FAT CAT DISK	751.1	APPLE 11-85
FAT CAT MAN.	751.0	APPLE 11-85
FIGURES & FORMULAS DISK	629.1	APPLE
FIGURES & FORMULAS MAN.	629.0	APPLE
FILEON APPLE DISK-MECC	434.1	APPLE II
FILES ON APPLE DISK	453.0	APPLE
FILES ON THE APPLE MECC DISK	759.1	APPLE 12-85
FILES ON THE APPLE MECC MAN.	759.0	APPLE 12-85
FILES ON THE APPLE-MECC	434.0	APPLE II
FLYGEN DISK	605.1	TRS-80
FLYGEN:SIMULATED GENETICS	605.0	TRS-80
FOOD FACTS DISK-MECC	500.1	APPLE
FOOD FACTS MAN.-MECC	500.0	APPLE
FORTRAN DSGN/PRGM DISK-MECC	588.3	APPLE

FILE TITLE	FILE NO	COMPUTER REQUIRED	
FORTRAN DSGN/PRGM MAN-MECC	588.2	APPLE	
FRAC./MULTIP.&DIV. DISK	091.1	APPLE	
FRAC.;DEC.;PERC.;& WPA.DISK	091.6	APPLE	
FRACTION SERIES #1 DISK	012.1	APPLE	
FRACTION SERIES #2 DISK	012.2	APPLE	
FRACTION SERIES #4 DISK	012.4	APPLE	
FRACTION SERIES #5 DISK	012.5	APPLE	
FRACTION SERIES #6 DISK	012.6	APPLE	
FRACTION; PRACTICE DISK1	019.1	APPLE	
FRACTIONS SERIES #3 DISK	012.3	APPLE	
FRACTIONS; ADD/SUBTR. DISK	091.4	APPLE	
FRACTIONS; PRACTICE DISK2	019.1	APPLE	
FRACTIONS; PRACTICE MANUAL	019.0	APPLE	
FRACTIONS;DEC/% DISK	091.5	APPLE	
FREELOADER 2 DISK	482.1	APPLE	
FREELOADER 3 DISK	483.1	APPLE	
FREELOADER 4 DISK	484.1	APPLE	
FREELOADER 5 DISK	485.1	APPLE	
FREELOADER 6 DISK	486.1	APPLE	
FREELOADER 7 DISK	487.1	APPLE	
FREELOADER 8 DISK	488.1	APPLE	
FREELOADER DISK	481.1	APPLE	
FRENCH 1 DISK	108.1	APPLE	
FRENCH 2 DISK	040.1	APPLE	
FRENCH GRAMMAR COMP. I DISK	686.1	APPLE	
FRENCH GRAMMAR COMP. II DISK	687.1	APPLE	
FRENCH GRAMMAR COMP. II MAN.	687.0	APPLE	
FRENCH GRAMMAR COMP.I MAN.	686.0	APPLE	
FRENCH HANGMAN DISK	234.1	APPLE	
FRENCH HANGMAN MANUAL	234.0	APPLE	
FRENCH IDIOM MASTER DISK	649.1	APPLE	
FRENCH IDIOM MASTER MAN.	649.0	APPLE	
FRENCH WORD ORDER	786.1	APPLE	2-86
FRIENDLY CMPTR. DISK-MECC	451.1	APPLE	
FRIENDLY CMPTR.MAN-MECC	451.0	APPLE	
FUTURE & COND. REG/IREG VERB	776.1	APPLE	2-86
GAMES & DRILLS MECC DISK	717.1	APPLE	
GAMES & DRILLS T.U. PT.2 MECC	717.4	APPLE	
GAMES,DRILLS TEACH UTIL MECC	717.3	APPLE	
GENERAL CHEM. DEMO DISK	310.1	APPLE	
GERMAN & RUSSIAN DISK	146.1	APPLE	
GERMAN & RUSSIAN MANUAL	146.0	APPLE	
GERMAN GRAMMAR COMP. I DISK	689.1	APPLE	
GERMAN GRAMMAR COMP. I MAN.	689.0	APPLE	
GERMAN GRAMMAR;DER-DIE-DAS	784.1	APPLE	2-86
GERMAN IDIOM MASTER DISK	655.1	APPLE	
GERMAN IDIOM MASTER MAN.	655.0	APPLE	
GERMAN WORD ORDER	785.1	APPLE	2-86
GERTRUDE'S PUZZLES DISK	077.1	APPLE	
GERTRUDE'S PUZZLES MANUAL	077.0	APPLE	
GERTRUDE'S SECRETS DISK	740.1	APPLE	11-85
GERTRUDE'S SECRETS MANUAL	740.0	APPLE	
GET. READY TO ADD/READ MAN.	075.0	APPLE	
GETTING READY; ADD/READ DISK	075.2	APPLE	
GETTING READY;ADD/READ DISK	075.1	APPLE	

FILE TITLE	FILE NO	COMPUTER REQUIRED
GPLE(GLOBAL PGM. LINE ED) DIS	752.1	APPLE 11-85
GPLE(GLOBAL PGM. LINE ED) MAN	752.0	APPLE 11-85
GRADE MANAGER DISK-MECC	463.1	APPLE
GRADE MANAGER MANUAL-MECC	463.0	APPLE
GRAPH MECC DISK	703.1	APPLE 10-85
GRAPH MECC MAN.	703.0	APPLE 10-85
GRAPHING DISK	551.1	APPLE
GRAPHING EQUATIONS DISK	276.1	APPLE
GRAPHING EQUATIONS MANUAL	276.0	APPLE
GRAPHING MANUAL	551.0	APPLE
GRAPHING PRIMER MECC DISK	713.1	APPLE 10-85
GRAPHING PRIMER MECC MAN.	713.0	APPLE 10-85
GRAPPLER OPERATORS MANUAL	128.0	APPLE
GROWGIN'S FRACT.DISK-MECC	491.1	APPLE
GROWGIN'S FRACT.MAN.-MECC	491.0	APPLE
GUESSING & THINKING DK-MECC	531.1	APPLE
GUESSING & THINKING MN-MECC	531.0	APPLE
HARTLEY SOFTWARE SHOP MANAUL	136.0	APPLE
HEALTH IMMUN/RCD. MAN-MECC	433.1	APPLE
HEALTH IMMUN/RCD.DISK-MECC	433.0	APPLE II
HEALTH MAINT. MAN.-MECC	435.0	APPLE II
HEALTH MAINT.DISK-MECC	435.1	APPLE II
HEALTH MAINTENANCE VOL.2 DISK	497.1	APPLE
HEALTH MAINTENANCE VOL.2 MAN	497.0	APPLE
HEATHCLIFF;FUN SPELLING CAS.	631.2	COMMODORE 64
HEATHCLIFF;FUN SPELLING DISK	631.1	COMMODORE 64
HEATHCLIFF;FUN SPELLING MAN.	631.0	COMMODORE 64
HEATLOSS DISK-MECC	514.1	APPLE
HEATLOSS MAN.-MECC	514.0	APPLE
HELLO; HISTORY DISK	071.1	TRS-80
HEREDITY DOG DISK	354.1	APPLE
HEREDITY DOG MANUAL	354.0	APPLE
HI-RES TOOLKIT DISK-MECC	567.1	APPLE
HI-RES TOOLKIT MAN-MECC A105	567.0	APPLE
HIGH SCHOOL DEMO DISK	058.1	APPLE
HOME EC 1 DISK	045.1	TRS-80
I.B.M. BASIC MANUAL	112.0	IBM
I.B.M. DOS MANUAL	113.0	IBM
I.B.M. OPERATIONS MANUAL	111.0	IBM
IBM BASIC 2 MANUAL	293.0	IBM
IBM DIAGNOSTIC DISK	291.1	IBM
IBM DOS OPERATING SYS VER2.0	113.2	IBM
IBM DOS OPERATING SYS VER2.00	113.0	IBM
IBM DOS OPERATING SYS VER2.0	113.1	IBM
IBM DOS OPERATING SYSTEM DIS	292.1	IBM
	292.2	IBM
IBM DOS OPERATING SYSTEM MAN	292.0	IBM
IBM DOS VER 2.0	113.0	IBM
IBM DOS VER 2.10	613.0	IBM
IBM EXPLORING THE PC DISK	294.1	IBM
IBM EXPLORING THE PC DISK 2	294.2	IBM
IBM GUIDE TO OPERATIONS MAN.	291.0	IBM
IBM INSTALLATION GUIDE	611.1	IBM
	611.3	IBM

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FILE TITLE	FILE NO	COMPUTER REQUIRED
IBM LOGO LANGUAGE DISKETTE	221.2	IBM
IBM LOGO MANUAL	221.0	IBM
IBM LOGO PROG/TURTLE GRAPHIC	221.3	APPLE
IBM OPERATIONS GUIDE	612.0	IBM
IBM SUPERPAK USERS DISK	611.0	IBM
IBM SUPERPAK USERS MAN.	611.2	IBM
IFS & THENS PRGM MAN.-MECC	574.0	APPLE
IFS & THENS PRGM. DSK-MECC	574.1	APPLE
INFORMATION MGR. MECC DISK1	700.1	APPLE 10-85
INFORMATION MGR. MECC DISK2	700.2	APPLE 10-85
INFORMATION MGR. MECC MAN.	700.0	APPLE 10-85
INSECT IDENTIFICATION DISK	327.3	APPLE
INSECT IDENTIFICATION MANUAL	327.0	APPLE
INSECTS A GUIDE MANUAL	327.1	APPLE
INSTR. COMPUTING PRES. DISK	149.0	APPLE
INSTR. COMPUTING PRES. MAN	149.1	APPLE
INTEGERS DISK1	692.1	APPLE
INTEGERS DISK2	692.2	APPLE
INTEGERS MANUAL	692.0	APPLE
INTERFACE MANUAL #7710	126.0	APPLE
INTERM.APPLESFT.BAS.DSK-MECC	458.1	APPLE
INTERMED.APPLESOFT BAS.-MECC	458.0	APPLE
INTRO TO APPLE IIE DISK	286.6	APPLE IIE
INTRO TO PASCAL DISK-MECC	549.1	APPLE
INTRO TO PASCAL MANUAL-MECC	549.0	APPLE
INTRO.APLSOFT BASIC DSK-MECC	519.1	APPLE
INTRO.APLSOFT BASIC MAN-MECC	519.0	APPLE
INTRO.LOGO/TEACHERS MAN-MECC	443.0	APPLE II

FILE TITLE	FILE NUMBER	COMPUTER REQUIRED
J & S DEMO DISK	323.1	APPLE
J & S GRADE BOOK DISK	801.1	APPLE
J & S GRADE BOOK MANUAL	801.0	APPLE
JAMCARD DISKWRITER UTIL DISK	620.1	IBM
JAMCARD SYSTEMS DISK	620.2	IBM
JAMCARD VIDEO DISC MAN.	620.0	IBM
JEFF.SOFT.CAREER EXP. DISK	284.7	APPLE
JEFF.SOFT.DATA BASE-C.E.DISK	284.8	APPLE
JEFF.SOFT.DATA BASE S.A.DISK	284.6	APPLE
JEFF.SOFT.SELECTING ALT.DISK	284.5	APPLE
JEFFERSON CAREER AS. DISK	284.1	APPLE
JEFFERSON CAREER PL. DISK	284.3	APPLE
JEFFERSON DATA BASE-C.A.	284.2	APPLE
JEFFERSON DATA BASE-C.P.	284.4	APPLE
JEFFERSON SOFTWARE MANUAL	284.0	APPLE
JEUX MATH CLASS. MAN-MECC	578.0	APPLE
JEUX MATH CLASSIQUES DS-MECC	578.1	APPLE
JUGGLES' RAINBOW DISK	076.1	APPLE
JUGGLES' RAINBOW MANUAL	076.0	APPLE
JUNIOR HIGH DEMO DISK	057.1	APPLE
KEYBOARDING MASTER MECC MAN.	717.0	APPLE
KEYBOARDING PRIMER MECC DSK1	694.1	APPLE
KEYBOARDING PRIMER MECC DSK2	694.2	APPLE
KEYBOARDING PRIMER MECC MAN.	694.0	APPLE
KITTENS, KIDS & A FROG DISK	661.1	APPLE
KITTENS, KIDS & A FROG MAN.	661.0	APPLE
	661.2	APPLE
LA CARTE DE FRANCE	707.1	APPLE
LABELS,LETTERS,LISTS MECC DISK	697.1	APPLE
LABELS,LETTERS,LISTS MECC MA.	697.0	APPLE
LADY BUG DISK	347.1	IBM
LADY BUG MANUAL	347.0	IBM
LANG 3 DISK	047.1	TRS-80
LANG. 1 DISK	046.1	TRS-80
LANGUAGE 2 DISK	036.1	TRS-80
LANGUAGE A/B DISK	034.1	APPLE
LANGUAGE ARTS DEMO DISK	104.1	APPLE
LATIN GRAMMAR COMP. 1 DISK	652.1	APPLE
LATIN GRAMMAR COMP. 1 MAN.	652.0	APPLE
LATIN HANGMAN DISK 2	225.2	APPLE
LATIN HANGMAN DISK 1	225.1	APPLE
LATIN HANGMAN MANUAL	225.0	APPLE
LATIN IDIOM MASTER DISK	685.1	APPLE
LATIN IDIOM MASTER MAN.	685.0	APPLE
LAWS OF MOTION A-MACHJ. DISK	317.1	APPLE
LAWS OF MOTION INCL.PL. DISK	316.1	APPLE
LE FRANCOLIS TEST DISK 2	110.1	APPLE
LE FUTUR ET LE CONDITIONNEL	708.1	APPLE
LE GRAND CONCOURS 2-3 DISK	654.1	APPLE
LE GRAND CONCOURS 2-3 MAN.	654.0	APPLE
LE GRAND CONCOURS 4-5 DISK	688.1	APPLE
LE GRAND CONCOURS 4-5 MAN.	688.0	APPLE
LE GRAND CONCOURS DISK	653.1	APPLE
LE GRAND CONCOURS MAN.	653.0	APPLE

FILE TITLE	FILE NUMBER	COMPUTER REQUIRED
LEGENDS DISK	474.0	APPLE
LESSONS IN ALBEBRA DISK	224.1	APPLE
LESSONS IN ALGEBRA MANUAL	224.0	APPLE
LETTERS (FRENCH) DISK 3	750.3	APPLE
LEVEL II BASIC REF. MANUAL	134.0	TRS-80
LIB 1 DISK	048.1	TRS-80
LIB 2 DISK	050.1	TRS-80
LITERATURE 1 DISK	049.1	APPLE
LIVING THINGS ECOL. DISK	325.4	APPLE
LOG 1 DISK	052.1	TRS-80
LOGIC GATES MECC DISK	722.1	APPLE
LOGIC GATES MECC MAN.	722.0	APPLE
LOGO MICROWORLD;PICTURE PUZZLE DISK	797.1	APPLE
LOGO MICROWORLD;PICTURE PUZZLE MANUAL	797.0	APPLE
LOGO ROBOT DISK	800.1	APPLE
LOGO ROBOT MANUAL	800.0	APPLE
LOGO, WORDS & IDEAS DSK-MECC	587.1	APPLE
LOGO, WORDS & IDEAS MAN.-MECC	587.0	APPLE
LOGO, WORDS, AND IDEAS DISK (MECC)	804.1	APPLE
	804.2	APPLE
LOGO, WORDS, AND IDEAS MANUAL (MECC)	804.0	APPLE
LOGO; PROG. W/TURTLE GRAPH.MAN	221.1	IBM
LOGOVILLE COMPUTER GAME	812.0	APPLE
LOOPS; TEACHER GUIDE DK-MECC	499.1	APPLE
LOOPS; TEACHER GUIDE MAN-MECC	499.0	APPLE
LUCKY'S MAGIC HAT DISK	643.1	APPLE
LUCKY'S MAGIC HAT MAN.	643.0	APPLE
MAGIC SLATE DISK	806.1	APPLE
	806.2	APPLE
MAGIC SLATE MANUAL	806.0	APPLE
MAGIC SPELL DISK	749.1	APPLE
MAGIC SPELL MANUAL	749.0	APPLE,IBM,COMMODORE
MAINE/CALIF. RACE DISK	603.1	COMMODORE 64
MAINE/CALIF. RECE MANUAL	603.0	COMMODORE 64
MARKET PLACE DISK	015.1	ATARI
MARKET PLACE MANUAL	015.0	ATARI
MASTER MATCH (AGS.6&UP) DISK	632.1	APPLE
MASTER MATCH (AGS.6&UP) MAN.	632.0	APPLE
MASTER MATH DIAG. SYS. MECC D	708.1	APPLE
MASTER MATH DIAG. SYS. MECC M	708.0	APPLE
MASTER MATH MGMT SYS. MECC MAN.	707.0	APPLE
MASTER MATH MGTM. SYS. MECC D	707.1	APPLE
MASTER MATH WRKSHT MECC MAN.	730.1	APPLE
MASTER MATH WRKSHT. MECC MAN.	730.0	APPLE
MASTER SPELL DISK-MECC	576.1	APPLE
MASTER SPELL MANUAL-MECC	576.0	APPLE
MASTER TYPE DISK 1	640.1	APPLE
MASTER TYPE DISK 2	640.2	APPLE
MASTER TYPE MAN.	640.0	APPLE
MATH BLASTER DATA DISK	218.1	APPLE
MATH BLASTER MANUAL	218.0	APPLE
MATH BLASTER PROGRAM DISK	218.2	APPLE
MATH DEMO DISK	051.1	APPLE

FILE TITLE	FILE NUMBER	COMPUTER REQUIRED
MATH DEMO DISK #2	319.0	APPLE
MATH DEMO DISK 1 SEC. MATH	767.1	APPLE
MATH GRAPH DEMO DISK	320.1	APPLE
MATH MATERIALS; VOL 1 MAN-MECC	511.0	APPLE
MATH MATERIALS;VOL1 DSK-MECC	511.1	APPLE
MATH MAZE DISK	665.1	APPLE
MATH MAZE MAN.	665.0	APPLE
MATH ON COMPUTER MANUAL	012.0	APPLE
MATH ON COMPUTER;FRACTIONS	012.1	APPLE
	012.2	APPLE
	012.3	APPLE
	012.4	APPLE
	012.5	APPLE
	012.6	APPLE
MATH ON COMPUTER;WHOLE NUMBERS	012.7	APPLE
MATH PROGRAMS DISK	214.1	APPLE
MATH VOL.2 DISK-MECC	509.1	APPLE
MATH VOL.2 MAN.-MECC	509.0	APPLE
MATH/BEAUTY MEET AESTHED.MAN	081.0	APPLE
MATH/BEAUTY MEET DISK-1	081.1	APPLE
MATH/BEAUTY MEET DISK-2	081.2	APPLE
MATH; ADD. & SUBT.DISK	626.0	APPLE
MATH; INSTR.&MFMT. SYS.MAN	734.0	APPLE
MATH; TELLING TIME DISK	626.1	APPLE
MATH;MATCHING &USING # DISK	626.2	APPLE
MATH;VOL.4 DISK-MECC	546.1	APPLE
MATH;VOL.4 MANUAL-MECC	546.0	APPLE
MATHEMATICS; VOL.1 DISK-MECC	496.1	APPLE
MATHEMATICS;VOL.1 MAN.-MECC	496.0	APPLE
MATHEMATICS;VOL.3 DISK-MECC	533.1	APPLE
MATHEMATICS;VOL.3 MANUAL-MECC	533.0	APPLE
MC/CVIS DEMO DISK	330.0	APPLE
MECC APPLE DEMO MANUAL	554.0	APPLE
MESAVENTURES CULTURELLES	789.1	APPLE
MICRO IDEAS DISK ONLY	490.1	
MICRO MULTIPLICATION DISK	602.1	COMMODORE 64
MICRO MULTIPLICATION MAN.	602.0	COMMODORE 64
MICRO SUBTRACTION DISK	604.1	COMMODORE 64
MICRO SUBTRACTION MANUAL	604.0	COMMODORE 64
MICRO VISION DISK	601.1	COMMODORE 64
MICRO VISION MANUAL	601.0	COMMODORE 64
MICROBE DISK	355.1	APPLE
MICROBE MANUAL	355.0	APPLE
MICROCHEM DEMO DISK	314.1	APPLE
MICROCHEM II DEMO DISK	308.1	APPLE
MICROCOMPUTER; FRACTIONS/DECIMALS MANUAL	091.0	APPLE
MICROCOMPUTER;DECIMALS (ADD/SUB)	091.3	APPLE
MICROCOMPUTER;DECIMALS (MULT/DIV)	091.2	APPLE
MICROCOMPUTER;FRACT. DEC. % WORD PROBLEMS	091.6	APPLE
MICROCOMPUTER;FRACTIONS (ADD/SUB)	091.4	APPLE
MICROCOMPUTER;FRACTIONS (MULT/DIV)	091.1	APPLE
MICROCOMPUTER;PERCENTS	091.5	APPLE
MICROPHYS PROGRAMS MANUAL	240.0	APPLE
MICROS MADE EASY	753.4	APPLE

FILE TITLE	FILE NUMBER	COMPUTER REQUIRED
MICROSOFT SOFTCARD DISK	763.1	APPLE
MICROSOFT SOFTCARD MASTER A	763.2	APPLE
MICROSOFT SOFTCARD MASTER B	763.3	APPLE
MIND PUZZLES DISK-MECC	545.1	APPLE
MIND PUZZLES MANUAL-MECC	545.0	APPLE
MIND-STORM LOGO BOOK MANUAL ONLY	032.0	
MINDPOWER I	753.5	APPLE
MISC 3 DISK	055.1	TRS-80
MISS MOUSE (READ READINESS)MN	733.0	APPLE
MISS MOUSE DISK	733.1	APPLE
MODELING DISK-MECC	442.1	APPLE II
MODELING MANUAL-MECC	442.0	APPLE
MONITOR II USER'S MANUAL(ONLY)	286.5	APPLE
MONSTER MATH DISK	298.1	IBM
MOPTOWN HOTEL DISK	746.1	APPLE
MOPTOWN HOTEL MANUAL	746.0	APPLE
MOPTOWN PARADE DISK	744.1	APPLE
MOPTOWN PARADE MANUAL	744.0	APPLE
MOTHS DISK	119.1	APPLE
MOTHS MANUAL	119.0	APPLE
MOUSE IN THE MAZE DISK-MECC	517.1	APPLE
MOUSE IN THE MAZE MANUAL-MECC	517.0	APPLE
MULTIPLICATION & DIVISION WHOLE NO. DISK	647.1	COMMODORE
MULTIPLICATION PUZZLE DISK-MECC	711.1	APPLE
MULTIPLICATION PUZZLE MANUAL-MECC	711.0	APPLE
MUSIC THEORY DISK-MECC	518.1	APPLE
MUSIC THEORY MANUAL-MECC	518.0	APPLE
NEWSROOM DISK - 1	617.1	APPLE
NEWSROOM DISK-2	617.2	APPLE
NEWSROOM MANUAL	617.0	APPLE
NUDGES APPLE LOGO MANUAL ONLY	803.0	APPLE
NUMBER SYSTEMS DISK-MECC	522.1	APPLE
NUMBER SYSTEMS MANUAL-MECC	522.0	APPLE
NUMERATION DISK-2	734.2	APPLE
NUTRITION VOL. 1 DISK-MECC	501.1	APPLE
NUTRITION VOL. 1 MANUAL-MECC	501.0	APPLE
NUTRITION VOL.2 DISK-MECC	436.1	APPLE
NUTRITION VOL.2 MANUAL-MECC	436.0	APPLE
OH, DEER! DISK-MECC	528.1	APPLE
OH, DEER! MANUAL-MECC	528.0	APPLE
OMNINET INSTALLATION MANUAL	129.0	APPLE
OMNIWAR DISK	109.1	APPLE
ONE BANANA MORE DISK	738.1	APPLE
ONE BANANA MORE MANUAL	738.0	APPLE
OPERATING INSTR. PANAS. MANUAL	302.0	AG6300 VTR
ORG. QUAL. ANALYSIS DEMO DISK	321.1	APPLE
ORGANIC CHEMISTRY DEMO DISK	309.1	APPLE
OSMO DISK	117.1	APPLE
OSMO MANUAL	117.0	APPLE
PARAGRAPH PRACTICE DISK-MECC	717.2	APPLE
PASCAL DESIGN/PROGRAMMING DISK 2 MECC	588.5	APPLE
PASCAL DESIGN/PROGRAMMING DISK-MECC	588.4	APPLE
PASCAL LEARN AID DISK-MECC	438.1	APPLE
PASCAL LEARN AID MANUAL-MECC	438.0	APPLE
PATTERN MAKER DISK	641.1	APPLE

FILE TITLE	FILE NUMBER	COMPUTER REQUIRED
PATTERN MAKER MANUAL	641.0	APPLE
PATTERNS & SEQUENCE DISK	670.1	APPLE
PATTERNS & SEQUENCE MANUAL	670.0	APPLE
PAYROLL BUSINESS SIMULATION DISK-MECC	566.1	APPLE
PAYROLL MANUAL-MECC	566.0	APPLE
PETS, LTD. DISK-MECC	572.1	APPLE
PETS, LTD. MANUAL-MECC	572.0	APPLE
PFS FILE MANUAL 3	771.0	APPLE
PFS GRAPH DISK	610.1	APPLE
PFS GRAPH MAN. 2	769.0	APPLE
PFS GRAPH MANUAL	610.0	APPLE
	769.0	APPLE
PFS REPORT DISK	078.1	APPLE
PFS REPORT DISK 2	770.1	APPLE
PFS REPORT MAN. 2	770.0	APPLE
PFS: REPORT MANUAL	078.0	APPLE
PHYSICAL SCIENCE KEYWORD DISK	328.2	TRS-80
PHYSICAL SCIENCE KEYWORD MANUAL	328.0	TRS-80
PHYSICS ELEMENTARY DISK	072.0	APPLE
PHYSICS: ELEM. DISK-2	072.1	APPLE
PHYSICS: ELEM. MECH. DISK-2	311.2	APPLE
PHYSICS: ELEM. MECH. DISK-3	311.3	APPLE
PHYSICS: ELEMENTARY MECH. DISK 1	311.1	APPLE
PHYSICS: ELEMENTARY MECH. DISK 4	311.4	APPLE
PHYSIO. REPORDUCTION DISK	325.3	APPLE
PICTURE PARTS (+-X/) DISK	679.1	APPLE
PICTURE PARTS (+-X/) MAN.	679.0	APPLE
PICTURE PUZZLE DISK	678.1	APPLE
PICTURE PUZZLE MAN.	678.0	APPLE
PICTURE WRITER 2 DISK	646.1	APPLE
PICTURE WRITER 2 MAN.	646.0	APPLE
POINT AND READ DISK	638.1	COMMODORE
POINT AND READ MAN.	638.0	COMMODORE
POKER LISTO	777.1	APPLE 2-86
POKER PARI	790.1	APPLE 2-86
POLLS AND POLITICS DSK-MECC	529.1	APPLE
POLLS AND POLITICS MAN-MECC	529.0	APPLE
POPGRO DISK	606.1	TRS-80
POPGRO:POPULATION GROWTH	606.0	TRS-80
POR VS PARA, DEF ART? WORDS	778.1	APPLE 2-86
POWER GRID	353.0	APPLE
POWER GRID DISK	353.1	APPLE
PRET & IMPERFECT VERBS	779.1	APPLE 2-86
PRGMR'S AID V.2 DISK-MECC	492.1	APPLE
PRGMR'S AID V.2 MANUAL-MECC	492.0	APPLE
PRIME COMPUTER: INTRP. MANUAL	130.0	
PRIME NUMBERS DISK-MECC	580.1	APPLE
PRIME NUMBERS MANUAL-MECC	580.0	APPLE
PRINT SHOP DISK	615.1	APPLE
PRINT SHOP GRAPHICS DK.1	731.1	APPLE
PRINT SHOP GRAPHICS DK.2	732.1	APPLE 11-85
PRINT SHOP GRAPHICS MAN. 2	732.0	APPLE
PRINT SHOP MANUAL	615.0	APPLE
PROBABILITY DISK-MECC	532.1	APPLE

FILE TITLE	FILE NUMBER	COMPUTER REQUIRED
PROBABILITY MANUAL - MECC	532.0	APPLE
PROBLEM SOLVING STRAT REV.	553.1	APPLE
PROBLEM SOLVING STRAT. MAN.	553.0	APPLE
PROBLEM SOLVING WITH LOGO MANUAL ONLY	807.0	APPLE
PROCESSING POWER DISK	229.1	APPLE
PROCESSING POWER MANUAL	229.0	APPLE
PROCESSING WORDS DISK	598.1	APPLE
PROCESSING WORDS MANUAL	598.0	APPLE II
PRODOS SUPPLEMENT/OWNER MAN.	286.3	APPLE IIE
PRODOS USER'S DISK	286.8	APPLE IIE
PRODOS USER'S MANUAL	286.1	APPLE IIE
PRODUCT INDEX	727.0	APPLE
PRODUCT INDEX DISK 1	727.1	APPLE
PROFESSIONAL SIGN MAKER DISK	809.1	APPLE
PROFESSIONAL SIGN MAKER MANUAL	809.0	APPLE
PROG. TIMER MOD. 7440A MAN.	140.0	APPLE
PROGRAM. SPECIAL PROJ. MANUAL-MECC	542.0	APPLE
PROGRAM.SPECIAL PROJ. MECC DI	542.1	APPLE
PROGRAMMER'S AIDE:V1 DK-MECC	537.1	APPLE
PROGRAMMER'S AIDE:V1 MN-MECC	537.0	APPLE
PUNCTUATION SERIES DISK	636.1	COMMODORE
PUZZLES/POSTERS DISK-MECC	575.1	APPLE
PUZZLES/POSTERS MAN-MECC	575.0	APPLE
QUO MODO DICIS? DISK	651.1	APPLE
QUO MODO DICIS? MAN.	651.0	APPLE
QUOTIENT QUEST MECC DISK	710.1	APPLE
QUOTIENT QUEST MECC MAN.	710.0	APPLE
RATIO & PROPORTION DISK	623.1	APPLE
	623.2	APPLE
RATIO & PROPORTION MAN.	623.0	APPLE
READING 1 DISK	026.1	APPLE
READING AROUND WORDS DISK	228.1	APPLE
READING AROUND WORDS MANUAL	228.0	APPLE
READING FOUR DISK	616.1	APPLE
READING LITERATURE DISK	215.1	APPLE
READING LITERATURE MANUAL	215.0	APPLE
READY READ/ADD DISK-MECC	563.1	APPLE IIE
READY READ/ADD DSK-MECC	563.0	APPLE IIE
READY, SET, GO (FRENCH) MAN.	750.0	APPLE
READY, SET, GO: LETTERS DISK	660.1	APPLE
READY, SET, GO: NUMERALS DISK	660.2	APPLE
READY, SET, GO: SHAPES DISK	660.3	APPLE
RELATIVE PRONOUNS & INTER	791.1	APPLE
RESEARCH 1	110.0	APPLE
RESEARCH 2	110.1	APPLE
RIGHT OF WAY MECC DISK	706.1	APPLE
RIGHT OF WAY MECC MAN.	706.0	APPLE
RINGMASTER 860 INTERFACE MAN	124.7	MANUAL ONLY
RINGMASTER II SERIES MANUAL	124.6	MANUAL ONLY
ROCKY BOOTS MANUAL	808.0	APPLE
ROCKY'S BOOTS DISK	808.1	APPLE
SALT & YOU DISK-MECC	584.1	APPLE
SALT & YOU MANUAL-MECC	584.0	APPLE
SAMPLE APPLE DISK	288.1	APPLE

FILE TITLE	FILE NUMBER	COMPUTER REQUIRED
SAMPLE DISK 1	061.1	APPLE
SAMPLE DISK 1 COMMODORE	691.1	COMMODORE
SAMPLE DISK 2	691.2	COMMODORE
SAMPLE DISK COMMODORE MAN.	691.0	COMMODORE
SAT ENGLISH 1 DISK	235.1	APPLE
SATELLITE ORBITS	280.0	APPLE
SAVIOR ECRIRE DISK	792.1	APPLE
SAVIOR ECRIRE MAN.	792.0	APPLE
SCHL. UTILITIES V.1 DSK-MECC	471.1	APPLE
SCHL.UTILITIES V.1 MAN.-MECC	471.0	APPLE
SCHL.UTILITIES V.2 DSK-MECC	472.1	APPLE
SCHL.UTILITIES V.2 MAN.-MECC	472.0	APPLE
SCI 1 DISK	059.1	TRS-80
SCI 2 DISK	063.1	TRS-80
SCI(PHYS/CHEM)V4 DK-MECC.	548.0	APPLE
SCIENCE (BIOLOGY/PHYSICS)VOL1 DISK	547.1	APPLE
SCIENCE (BIOLOGY/PHYSICS)VOL1 MAN	547.0	APPLE
SCIENCE (EARTH/LIFE) VOL.3 DISK-MECC	538.1	APPLE
SCIENCE (EARTH/LIFE) VOL.3 MAN.-MECC	538.0	APPLE
SCIENCE C-MANUAL	352.0	APPLE
SCIENCE C2B DISK	352.3	APPLE
SCIENCE C3A DISK	352.1	APPLE
SCIENCE C3B DISK	352.2	APPLE
SCIENCE DEPT. INVENT. DISK	329.1	APPLE
SCIENCE DEPT. INVENT. MANUAL	329.0	APPLE
SCIENCE VOL.2 #709 DISK-MECC	516.0	APPLE
SCIENCE VOL.2 #709 MANUAL-MECC	516.0	APPLE
SCIENTIFIC MEASUREMENTS DISK	743.1	APPLE
SCIENTIFIC MEASUREMENTS MAN.	743.0	APPLE
SCREENWRITER II DISK	008.1	APPLE
SCREENWRITER II MANUAL	008.0	APPLE
SEMANTIC CALCULATOR DISK	084.1	APPLE
SEMANTIC CALCULATOR MANUAL	084.0	APPLE
SENTENCE DIAGRAMMING DISK	333.1	APPLE
SENTENCE DIAGRAMMING MANUAL	333.0	APPLE
SETTING UP YOUR APPLE IIC MAN.	557.1	APPLE IIC
SHAPE TABLES DISK-MECC	520.1	APPLE
SHAPES (FRENCH) DISK 1	520.1	APPLE
	750.1	APPLE
SHAPES (FRENCH) DISK 2	750.2	APPLE
SMOKING MANUAL-MECC A103	565.0	APPLE
SMOKING'S UP/YOU DISK-MECC	565.1	APPLE
SNOOPER TROOPER MANUAL	010.0	APPLE
SNOOPER TROOPS DISK	010.2	APPLE
SOCIAL STUDIES 1 DISK-A	064.1	TRS-80
SOCIAL STUDIES 1 DISK-B	065.1	TRS-80
SOCIAL STUDIES 2 DISK	066.1	TRS-80
SOCIAL STUDIES 3 DISK	067.1	TRS-80
SOCIAL STUDIES 4 DISK	068.1	TRS-80
SOCIAL STUDIES: VOL. 2 MANUAL	245.1	APPLE
SOCIAL STUDIES: VOL. 2 DISK	245.0	APPLE
SOCIAL STUDIES: VOL.1 DISK-MECC	526.1	APPLE
SOCIAL STUDIES: VOL.1 MANUAL-MECC	526.0	APPLE
SONGWRITER DISK	642.1	APPLE

FILE TITLE	FILE NUMBER	COMPUTER REQUIRED
SONGWRITER MAN.	642.0	APPLE
SPACE SUBTRACTION MECC DISK	696.1	APPLE
SPACE SUBTRACTION MECC MAN.	696.0	APPLE
SPAN. VOCAB. BUILDER MANUAL	011.0	APPLE
SPANISH ACHIEVEMENT I DISK	780.1	APPLE
SPANISH ACHIEVEMENT I MAN	780.0	APPLE
SPANISH ACHIEVEMENT II DISK	781.1	APPLE
SPANISH ACHIEVEMENT II MAN	781.0	APPLE
SPANISH ACHIEVEMENT III DISK	782.1	APPLE
SPANISH ACHIEVEMENT III MAN	782.0	APPLE
SPANISH GRAMMAR COMP. I 2 DISK	656.1	APPLE
SPANISH GRAMMAR COMP. I 2 MAN.	656.0	APPLE
SPANISH GRAMMAR COMP. II DISK	671.1	APPLE
SPANISH GRAMMAR COMP. II MAN.	671.0	APPLE
SPANISH HANGMAN DISK	223.1	APPLE
SPANISH HANGMAN MANUAL	223.0	APPLE
SPANISH IDIOM MASTER DISK	657.1	APPLE
SPANISH IDIOM MASTER MAN.	657.0	APPLE
SPANISH LANG MATH PRAC. MECC	760.0	APPLE
SPANISH LANG MATH PRAC. MECC D	760.1	APPLE
SPANISH VOCABULARY DISK	011.1	APPLE
SPECIAL NEEDS VOL 2 DISK-MECC	493.1	APPLE
SPECIAL NEEDS VOL 2 MAN. -MECC	493.0	APPLE
SPECIAL NEEDS VOL1 DISK-MECC	505.1	APPLE
SPECIAL NEEDS VOL1 MAN.-MECC	505.0	APPLE
SPEED READER II DATA DISK	222.1	APPLE
SPEED READER II MANUAL	222.0	APPLE
SPEED READER II PROGRAM DISK	222.2	APPLE
SPELL-A-VISION DISK	677.1	APPLE
SPELL-A-VISION MAN.	677.0	APPLE
SPELL./READING PRIMER DISK	645.1	APPLE
SPELL./READING PRIMER MAN.	645.0	APPLE
SPELLER DICT. MECC DISK SIDE 2	695.2	APPLE
SPELLER MECC MAN.	695.0	APPLE
SPELLER PROG. MECC DISK SD.1	695.1	APPLE
SPELLICOPTER (AGS.&&UP) DISK	630.1	APPLE
SPELLICOPTER (AGS.&&UP) MAN.	630.0	APPLE
SPELLING 1 DISK	037.1	APPLE
SPELLING 2 DISK	069.1	APPLE
SPELLING 3 DISK	070.1	APPLE
SPELLING 4 DISK	489.1	APPLE
SPELLING BREAKTHROUGH 2 DISK	232.1	APPLE
SPELLING BREAKTHROUGH 3 DISK	232.2	APPLE
SPELLING BREAKTHROUGH MANUAL	232.0	APPLE
SPELLING CAREERS/MEDICINE	339.1	APPLE
SPELLING SERIES: LEV. A DISK	639.1	APPLE
SPELLING SERIES: LEV. A MAN.	639.0	APPLE
SPELLING SERIES: LEV. B DISK	633.1	APPLE
SPELLING SERIES: LEV. B MAN.	633.0	APPLE
SPELLING V2 (SEC.) DISK-MECC	523.1	APPLE
SPELLING V2 (SEC.) MAN-MECC	523.0	APPLE
SPELLING/CAREERS IN BUSINESS	336.0	APPLE
SPELLING: VOL.1 DISK-MECC	510.1	APPLE
SPELLING: VOL.1 MAN.-MECC	510.0	APPLE
SPORTS STATS MECC DISK	709.1	APPLE

FILE TITLE	FILE NUMBER	COMPUTER REQUIRED
SPORTS STATS MECC MAN.	709.0	APPLE
STAR SEARCH DISK	326.2	APPLE
STAR SEARCH MANUAL 2	326.1	APPLE
STARSEARCH MANUAL 1	326.0	APPLE
STICKYBEAR ABC DISK	624.1	APPLE
STICKYBEAR ABC MAN.	624.0	APPLE
STICKYBEAR MATH DISK	621.1	APPLE
STICKYBEAR MATH MAN.	621.0	APPLE
STICKYBEAR NUMBERS DISK	622.1	APPLE
STICKYBEAR NUMBERS MAN.	622.0	APPLE
STICKYBEAR READING DISK	675.1	APPLE
STICKYBEAR READING MAN.	675.0	APPLE
STRATEGIES OF EXCELLENCE DISK	102.1	APPLE
STRATEGIES OF EXCELLENCE MAN.	102.0	APPLE
STUDENT RECORD DISK 1	734.1	APPLE
STUDENT STORIES MECC DISK	729.1	APPLE
STUDENT STORIES MECC MAN.	729.0	APPLE
STUDY GUIDE DISK-MECC	583.1	APPLE
STUDY GUIDE MANUAL-MECC	583.0	APPLE
STUFF & FETCH MECC DISK	702.1	APPLE
STUFF & FETCH MECC MAN.	702.0	APPLE
SUBJUNCTIVE	783.1	APPLE
SUBTRACTION PUZZ. MECC DISK	712.1	APPLE
SUBTRACTION PUZZ. MECC MAN.	712.0	APPLE
SUPER SERIAL CARD MANUAL	559.1	APPLE II
SUPER SERIAL CARD-AP. II MAN.	559.0	APPLE II
SURVIVAL MATH DISK	085.1	APPLE
SURVIVAL MATH MANUAL	085.0	APPLE
TEACH 1 DISK	029.0	TRS-80
TEACH 2 DISK	033.0	TRS-80
TEACH 3 DISK	033.1	TRS-80
TEACH WRITE W/A WORD PROC. DISK	719.1	APPLE
TEACH WRITE W/A WORD PROC. MA	719.0	APPLE
TEACH. ASST FRENCH MECC DISK	794.1	APPLE
TEACH. ASST FRENCH MECC MAN.	794.0	APPLE
TEACH. ASST. SPAN. DK-MECC	595.1	APPLE II
TEACH. ASST. SPAN. MAN-MECC	595.0	APPLE
TEACH. CREATED SPELL DISK	099.1	APPLE
TEACH. CREATED SPELL MANUAL	099.0	APPLE
TEACH.UTILITIES V.3 DSK-MECC	469.0	APPLE
TEACH.UTILITIES V.4 DSK-MECC	470.0	APPLE
TEACHER UTILITIES VOL. 1 DISK	332.1	APPLE
TEACHER UTILITIES VOL. 1 MAN	332.0	APPLE
TEACHER/UTILITIES: V2 DI.-MECC	468.1	APPLE
TEACHER/UTILITIES:V2-MECC	468.0	APPLE
TEACHING ASST(FRENCH)DK-MECC	525.1	APPLE
TEACHING ASST(FRENCH)MN-MECC	525.0	APPLE
TEASERS BY TOBBS DISK	083.1	APPLE
TEASERS BY TOBBS DISK 2	083.2	APPLE
TEASERS BY TOBBS MAN.	083.0	APPLE
TERMS & COMMAND DISK	258.0	APPLE
TERRAPIN LANG. DISK	007.1	APPLE
TERRAPIN LANG. UTIL. DISK	007.2	APPLE
TERRAPIN LOGO DISK	802.1	APPLE
	802.2	APPLE

FILE TITLE	FILE NUMBER	COMPUTER REQUIRED
TERRAPIN LOGO LANG. MANUAL	007.0	APPLE
TERRAPIN LOGO MANUAL	802.0	APPLE
TEST MAKER DISK	796.1	APPLE
TEST MAKER MANUAL	796.0	APPLE
THE 3 R'S MICROCOMP DISK-MECC	539.1	APPLE
THE 3 R'S MICROCOMP.MAN.-MECC	539.0	APPLE
THE FACTORY	810.0	APPLE, IBM, COMM.
THE GAME SHOW DISK	681.1	APPLE
THE GERMAN CONTEST 1-2 DISK	658.1	APPLE
THE GERMAN CONTEST 1-2 MAN.	658.0	APPLE
THE SPANISH CONTEST DISK	668.1	APPLE
THE SPANISH CONTEST MAN.	668.0	APPLE
THINK TANK DATA DISK	220.1	APPLE
THINK TANK MANUAL	220.0	APPLE
THINK TANK PROGRAM DISK	220.2	APPLE
TIC TAC SHOW DISK	747.1	APPLE
TIC TAC SHOW MANUAL	747.0	APPLE
TRIVIA MACHINE DISK B	715.2	APPLE
TRIVIA MACHINE MECC DISK A	715.1	APPLE
TRIVIA MACHINE MECC MANUAL	715.0	APPLE
TUTTLE'S GRAPHICS TEMPLATE FOR LOGO	811.0	APPLE
TYPE 'N TALK MANUAL ONLY	127.0	APPLE
U.S. GOVT' DATA BASE FOR PFS:FILE DISK	805.1	APPLE
	805.2	APPLE
U.S. GOVT' DATA BASE FOR PFS:FILE MANUAL	805.0	APPLE
UN COURS DE GRAMMAIRE DISK	793.1	APPLE
UN COURSE DE GRAMMAIRE MANUAL	793.0	APPLE
USAGE (BRITANNICA) DISK	269.1	APPLE
USING COMPTR./CLASS MAN-MECC	440.0	APPLE II
VERNIER GRAPH ANAL. II MANUAL	324.0	APPLE
VERNIER GRAPH. ANAL. II DISK	324.1	APPLE
VERNIER KINEMATICS II DISK	324.2	APPLE
VERNIER PROJECTILS II DISK	324.3	APPLE
VIDEO INTERFACE CARD DISK	301.1	APPLE
VIDEO INTERFACE CARD MANUAL	301.0	APP E/VCR
VIDEO INTERFACE CARD TAPE	301.2	1/2" VCR
VISI TREND/PLOT DISK	768.1	APPLE
VISICALC DISK 1	762.1	APPLE
VISICALC DISK 2	762.2	APPLE
VISICALC MANUAL	762.0	APPLE
VOCABULARY DEVELOPMENT DISK	337.1	APPLE
VOLCANOES #2 DISK	125.4	APPLE
VOLCANOES BLUE BOOK	125.0	APPLE
VOLCANOES BLUE BOOK MANUAL	125.3	APPLE
VOLCANOES DISK #1	125.1	APPLE
WEATHER FRONTS	349.0	APPLE IIE
WEATHER FRONTS DISK	349.1	APPLE IIE
WHOLE NUMBERS PRACTICE DISK	003.1	APPLE
WHOLE NUMBERS PRACTICE MAN.	003.0	APPLE
WIE SAFT MAN? DISK	627.1	APPLE
WIE SAFT MAN? MANUAL	627.0	APPLE
WINDOW DISK	043.1	APPLE
WISCR-90 CLINICAL RPT. MAN.	283.0	APPLE
WISCR-90 EDU DISK	283.1	APPLE

FILE TITLE	FILE NUMBER	COMPUTER REQUIRED
WISCR-90 PROGRAM DISK	283.2	APPLE
WIZARD OF WORDS DISK	742.1	APPLE
WIZARD OF WORDS MAN.	742.0	APPLE
WORD ATTACK DATA DISK	239.1	APPLE
WORD ATTACK MANUAL	239.0	APPLE
WORD ATTACK PROGRAM DISK	239.2	APPLE
WORD FAMILIES DISK	666.1	APPLE
WORD FAMILIES MANUAL	666.0	APPLE
WORD HERD DISK-MECC	568.1	APPLE
WORD HERD MANUAL-MECC	568.0	APPLE
WORD HERD:LOOK ALIKE DK-MECC	577.1	APPLE
WORD MEMORY PROGRAM DISK	684.1	APPLE
WORD MEMORY PROGRAM MAN.	684.0	APPLE
WORD POWER DISK	226.1	APPLE
WORD POWER MANUAL	226.0	APPLE
WORD PROBLEMS-DISK 5	734.4	APPLE
WORD PROCESS TEACH DSK-MECC	562.1	APPLE IIE
WORD PROCESS TEACH MAN-MECC	562.0	APPLE IIE
WORD PROCESS. DISK-MECC	447.1	APPLE II
WORD PROCESS. MANUAL-MECC	447.0	APPLE II
WORD RACE/CLAIM TO FAME DISK	216.1	APPLE
WORD SCRAMBLER/SPELL. TUTOR	340.1	APPLE
WORD SEARCH	654.0	APPLE
WORD SEARCH DISK	754.1	APPLE
WORD SPINNER DISK	737.1	APPLE,COM.,ATARI,IBM
WORD SPINNER MANUAL	737.0	APPLE,COM.,ATARI,IBM
WORD WIZARDS DISK-MECC	573.1	APPLE
WORD WIZARDS MANUAL-MECC	573.0	APPLE
WRD.HRD.:LOOK ALIKE MN-MECC	577.0	APPLE
WRESTLING STATS.DISK-MECC	448.1	APPLE II
WRESTLING STATS.MAN.-MECC	448.0	APPLE II
WRITE AN OPINION PAPER MECC D	704.1	APPLE
WRITE AN OPINION PAPER MECC MAN.	704.0	APPLE
WRITE CHARACT. SKETCH DISK	555.1	APPLE
WRITE START MECC DISK	699.1	APPLE
WRITE START MECC MANUAL	699.0	APPLE
WRITE SUPPORT MAT.MAN-MECC	439.0	APPLE II
WRITER MECC DISK	698.1	APPLE
WRITER MECC MANUAL	698.0	APPLE
WRITING CHARACTER SKETCH MAN.	555.0	APPLE
WRITING NARRATIVE DISK-MECC	437.1	APPLE II
WRITING NARRATIVE MAN.-MECC	437.0	APPLE II
WRITING SKILLS:PUNCTUATION	753.3	APPLE
YOUNG FOLKS:LETTER GAMES DISK	680.3	APPLE
YOUNG FOLKS:PUSS 'N BOOTS DISK	680.1	APPLE
YOUNG FOLKS:WORD FACTORY DISK	680.4	APPLE
ZENITH COLOR VID.MON.MANUAL	312.0	HOME COMPUTER

THEME PLANNING SHEETS

CURRICULUM

JANUARY 1987

SUN	MON	TUE	WED	THU	FRI	SAT
				1 CENTER CLOSED	2 CENTER CLOSED	3
4 THIS WEEK: COLORS AROUND ME DRESSING FOR THE WEATHER	5	6 SCHEDULE CHANGES DUE FOR WEEKS OF 1-12 AND 1-19	7	8 REMINDER: CHECK THE PARENT BOARD REGULARLY	9	10 REMEMBER: WE PLAY OUTSIDE DAILY
11 THIS WEEK: SOUND OF "B" COLOR - RED MY FAMILY AND ME	12 TRY TO BE UNDERSTANDING, COMING BACK TO SCHOOL AFTER A VACATION IS DIFFICULT FOR MANY CHILDREN	13	14 HAVE YOU HUGGED YOUR KID TODAY?	15	16 PLEASE CHECK YOUR CHILD'S CUBBIE DAILY	17
18 THIS WEEK: SOUND OF "D" COLOR - BLUE MY FAMILY AND ME	19	20 SCHEDULE CHANGES DUE FOR WEEKS OF 1-26 AND 2-2	21	22	23	24 CHECK FOR HATS, BOOTS, MITTENS, GLOVES, AND SCARVES
25 THIS WEEK: SOUND OF "F" COLOR - YELLOW MY SENSE OF SIGHT	26	27 TAKE TIME TO SAY GOODBYE TO YOUR CHILD BEFORE LEAVING	28	29 DO YOU KNOW WHAT'S IN YOUR CHILD'S CUBBIE?	30	31 PLEASE CHECK OUR LOST AND FOUND

Our month long topics will be colors and animals.

WELCOME BACK!

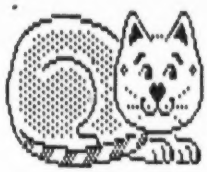
CURRICULUM

FEBRUARY 1987

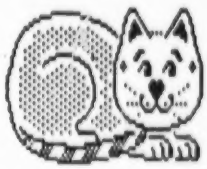
SUN	MON	TUE	WED	THU	FRI	SAT
1 THIS WEEK: SOUND OF "H" COLOR - GREEN MY SENSE OF SIGHT	2	3 SCHEDULE CHANGES DUE FOR WEEKS OF 2-9 AND 2-16	4	5	6	7 VALENTINES WILL BE EXCHANGED AT OUR PARTY
8 THIS WEEK: SOUND OF "L" COLOR - ORANGE PLANTS	9 NATIONAL KISS YOUR KID WEEK	10	11	12	13 VALENTINE'S DAY PARTY	14
15 THIS WEEK: SOUND OF "M" COLOR - PURPLE PLANTS	16	17 SCHEDULE CHANGES DUE FOR WEEKS OF 2-23 AND 3-2	18 YOUR CHILD CAN HELP CARE FOR HOUSEHOLD PLANTS	19	20 DID YOU TAKE YOUR CHILD'S VALENTINES HOME?	21
22 THIS WEEK: SOUND OF "N" COLORS- BLACK & WHITE PLANTS	23	24	25	26 REMEMBER; WE PLAY OUTSIDE IN ALL KINDS OF WEATHER	27	28 PLEASE CHECK OUR LOST AND FOUND

This month we will be continuing our work with colors and animals.

HAVE A HAPPY VALENTINE'S DAY



CURRICULUM



MARCH 1987

SUN	MON	TUE	WED	THU	FRI	SAT
1 THIS WEEK: SOUND OF "P" SHAPE - CIRCLE TEXTURE/MY SENSE OF TOUCH	2 TALK WITH YOUR CHILD ABOUT HIS SCHOOL EXPERIENCES	3 SCHEDULE CHANGES DUE FOR WEEKS OF 3-9 AND 3-16	4	5 APPRECIATE YOUR CHILD'S ART WORK	6	7 DON'T FORGET A BOOK AT BEDTIME
8 THIS WEEK: SOUND OF "R" SHAPE - SQUARE TEXTURE/MY SENSE OF TOUCH	9	10 SPRING BREAK SCHEDULES DUE	11	12 TICKLE AND GIGGLE DAY	13	14 CHECK FOR HATS, MITTENS, GLOVES, BOOTS, AND SCARVES
15 THIS WEEK: SOUND OF "S" SHAPE- TRIANGLE MY EMOTIONS	16	17 SCHEDULE CHANGES DUE FOR WEEKS OF 3-23 AND 3-30	18 EMOTION WORDS: HAPPY SAD ANGRY	19	20 IT'S FRIDAY! DO YOU KNOW WHAT'S IN YOUR CHILD'S CUBBIE?	21
22 THIS WEEK: SOUND OF "I" SHAPE- RECTANGLE MY EMOTIONS	23 S B CENTER OPEN	24 P R CENTER OPEN	25 R E CENTER OPEN	26 I A CENTER OPEN	27 N K CENTER OPEN	28 G
29 THIS WEEK: SOUND OF "V" SHAPE - RECTANGLE PLAYING SAFELY	30	31 SCHEDULE CHANGES DUE FOR WEEKS OF 4-6 AND 4-13				

Our month long topics will be transportation and shape & form.

SMILE, YOUR CHILD LOVES YOU!

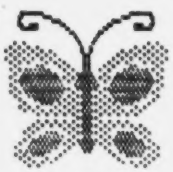
CURRICULUM

APRIL 1987

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2 WATCH FOR ROBINS	3	4 KIDS CAN COOK TOO!
5 THIS WEEK: SOUND OF "W" MY SENSE OF TASTE AND SMELL MY BODY	6 EAT A GOOD BREAKFAST	7	8 A HUG A DAY KEEPS THE GRUMPIES AWAY	9	10 CLEAN YOUR CUBBIE DAY	11
12 THIS WEEK: SOUND OF "Y" MY SENSE OF TASTE AND SMELL MY BODY	13	14 SCHEDULE CHANGES DUE FOR WEEKS OF 4-20 AND 4-27	15	16 PLEASE TALK ABOUT FOODS AND NUTRITION WITH YOUR CHILD	17	18 REMEMBER WE PLAY OUTSIDE DAILY
19 THIS WEEK: SOUND OF "Z" SIZE & SERIATION FIRE SAFETY	20	21 YOUR CHILD'S LAST DAY IN THE CENTER MUST BE REPORTED TO A STAFF MEMBER BY 5:00 PM	22	23	24 DO YOU HAVE FIRE DRILLS AT HOME?	25
26 THIS WEEK: SOUND OF "K" SIZE & SERIATION FIRE SAFETY	27	28 FINALS WEEK SCHEDULES ARE DUE FOR WEEK OF 5-4	29	30 PLEASE CHECK OUR LOST AND FOUND		

Our month long topics will be nutrition and food experiences and number (one-to-one correspondence, ordering).

APRIL SHOWERS BRING MAY FLOWERS



CURRICULUM

MAY 1987

SUN	MON	TUE	WED	THU	FRI	SAT
					1 ALERT YOUR FINALS CAN BE SIRESSFUL FOR BUTH YOU AND YOUR CHILD	2 TRY TO KEEP ROUTINES AS CONSISTANT AS POSSIBLE
3 THIS WEEK: SOUND OF "J" SOUND & PITCH MY SENSE OF HEARING	4 FINALS WEEK	5 SMILES ARE CONTAGIOUS	6	7 TRY TO SPEND SOME QUALITY TIME WITH YOUR CHILD	8	9
10 THIS WEEK: SOUND OF "B" SOUND & PITCH MY SENSE OF HEARING	11	12 SCHEDULE CHANGES ARE DUE FOR WEEKS OF 5-18 AND 5-25	13	14 LISTEN TO YOUR CHILD	15	16 REMEMBER TO DRESS FOR THE WEATHER
17 THIS WEEK: SOUND OF "O" WEIGHT AND BALANCE MY FRIENDS	18	19 HAVE YOU WEIGHED AND MEASURED YOUR CHILD LATELY?	20	21	22 CHILDREN'S CUBBIES NEED SPRING CLEANING TOO!	23
24 THIS WEEK: SOUND OF "F" WEIGHT AND BALANCE MY FRIENDS	25 CENTER CLOSED MEMORIAL DAY	26 SCHEDULE CHANGES DUE	27	28 ENCOURAGE YOUR CHILD TO TALK ABOUT SCHOOL FRIENDS	29	30 PLEASE CHECK OUR LOST AND FOUND
31						

Our month long topics will be community helpers and number (measuring, compairing).

SPRING HAS SPRUNG

CURRICULUM

JUNE 1987

SUN	MON	TUE	WED	THU	FRI	SAT
	1 THIS WEEK: SOUND OF "H" MY SENSES MYSELF AND OTHER PEOPLE	2	3	4	5	6
7 THIS WEEK: SOUND OF "I" MY SENSES MYSELF AND OTHER PEOPLE	8	9	10	11	12 CLOSING DATE	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

This month we will be continuing our work with community helpers and number (measuring, compairing).

HAVE A WONDERFUL SUMMER!

WORKSHOP REMINDER CALENDARS

COMPUTING

SEPTEMBER, 1986

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2 LEARNING ABOUT LOGO!	3	4	5	6
7	8	9 USING THE LOGO TURTLE FLOOR APPARATUS	10	11	12	13
14	15	16 PERSONAL FILE SYSTEM:REPORT	17	18	19	20
21	22	23 EARLY CHILDHOOD ASSESSMENT PROGRAM SAMPLE	24	25	26	27
28	29	30				

TUESDAY WORKSHOPS 12:45-1:45 PM IN CENTER

OCTOBER,1986

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
5	6	7 BANK STREET WRITER-WORD PROCESSING PROGRAM FORMAT	8	9	10	11
12	13	14 APPLE WRITER-WORD PROCESSING PROGRAM	15	16	17	18
19	20	21 CREATING DATA BASE FILE SYSTEM OUTLINES	22	23	24	25
26	27	28 UPDATING DATA BASE FILES-PFS	29	30	31	

TUESDAY WORKSHOPS 12:45-1:45 IN SMALL CLASSROOM

LIST OF FIGURES

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